



CHILD PSYCHOLOGY

Spring 2024

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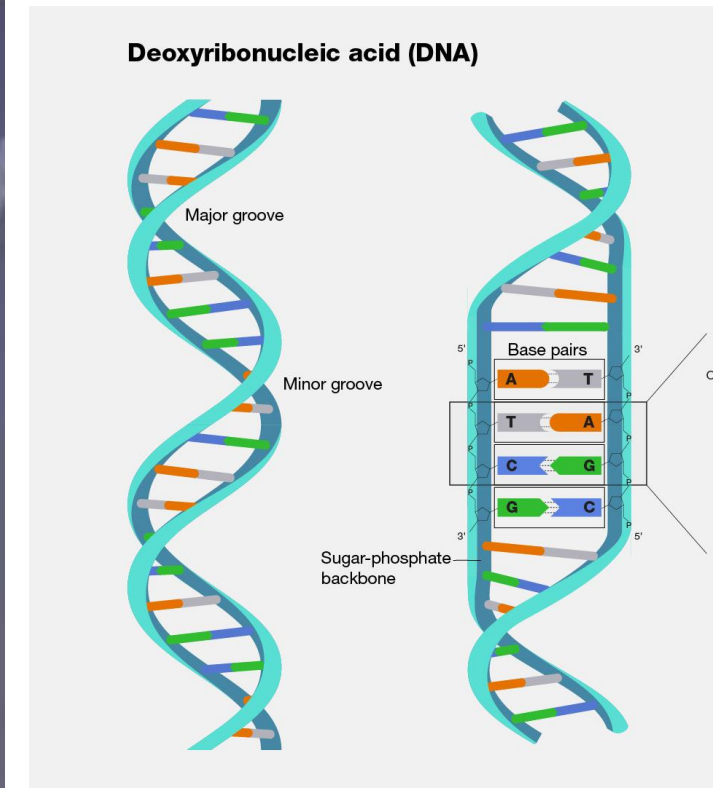
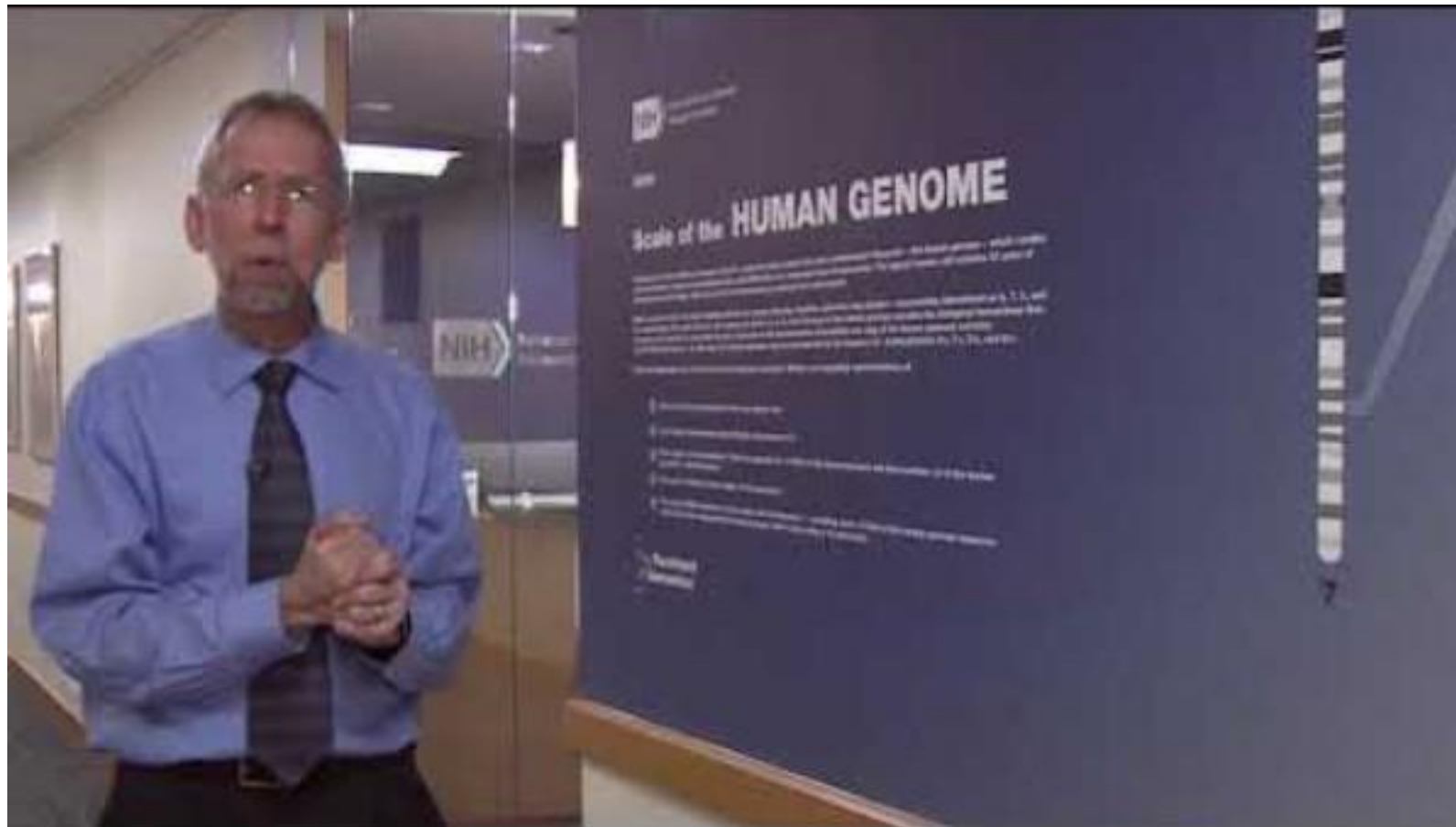
Conception, Heredity, and Prenatal Development

Chapter 2



2.1 Heredity

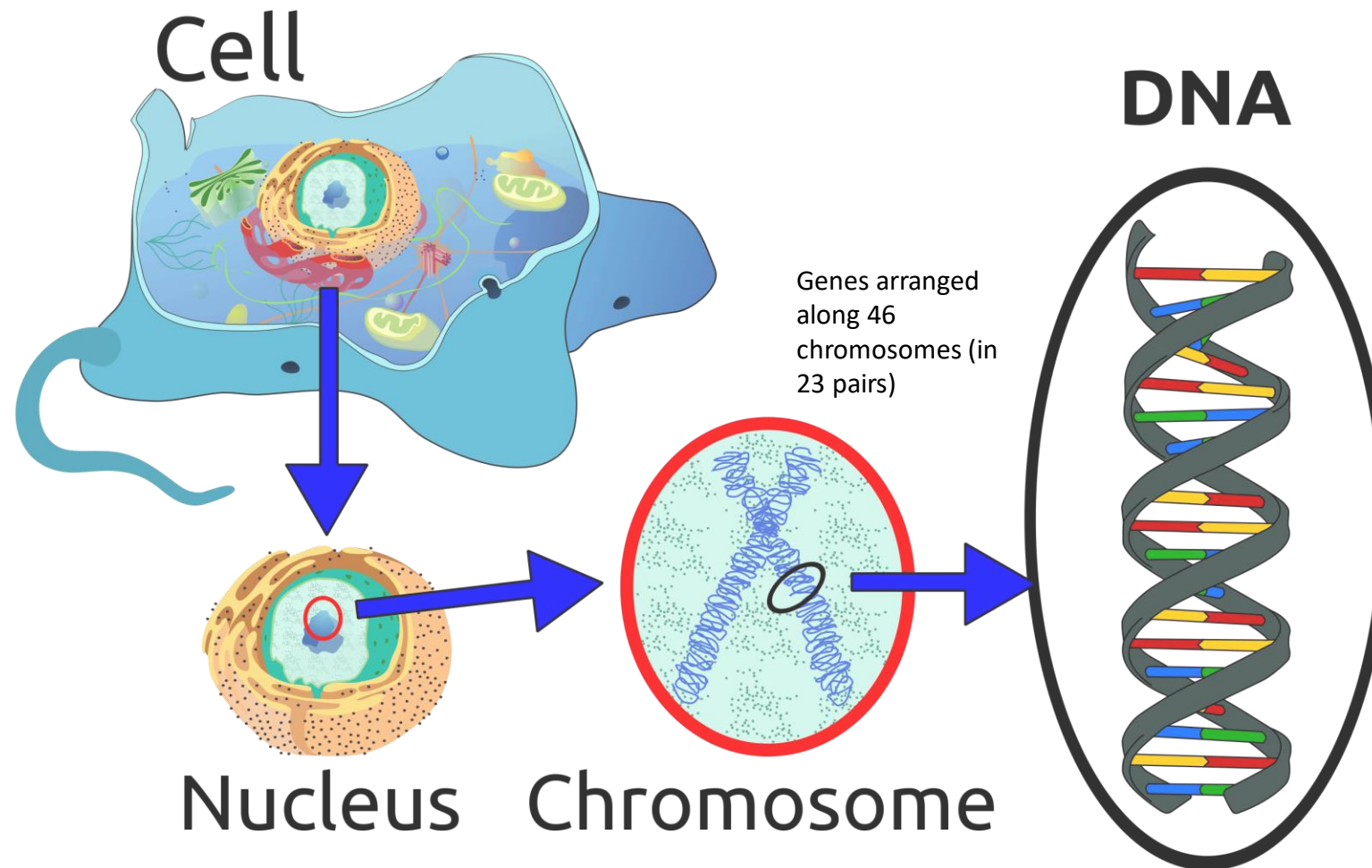
- Genes: basic building block of the nature perspective. They are recipes for making proteins, while proteins influence the structure and functions of cells. Genes are located on the chromosomes.





2.1 Genes and Chromosomes

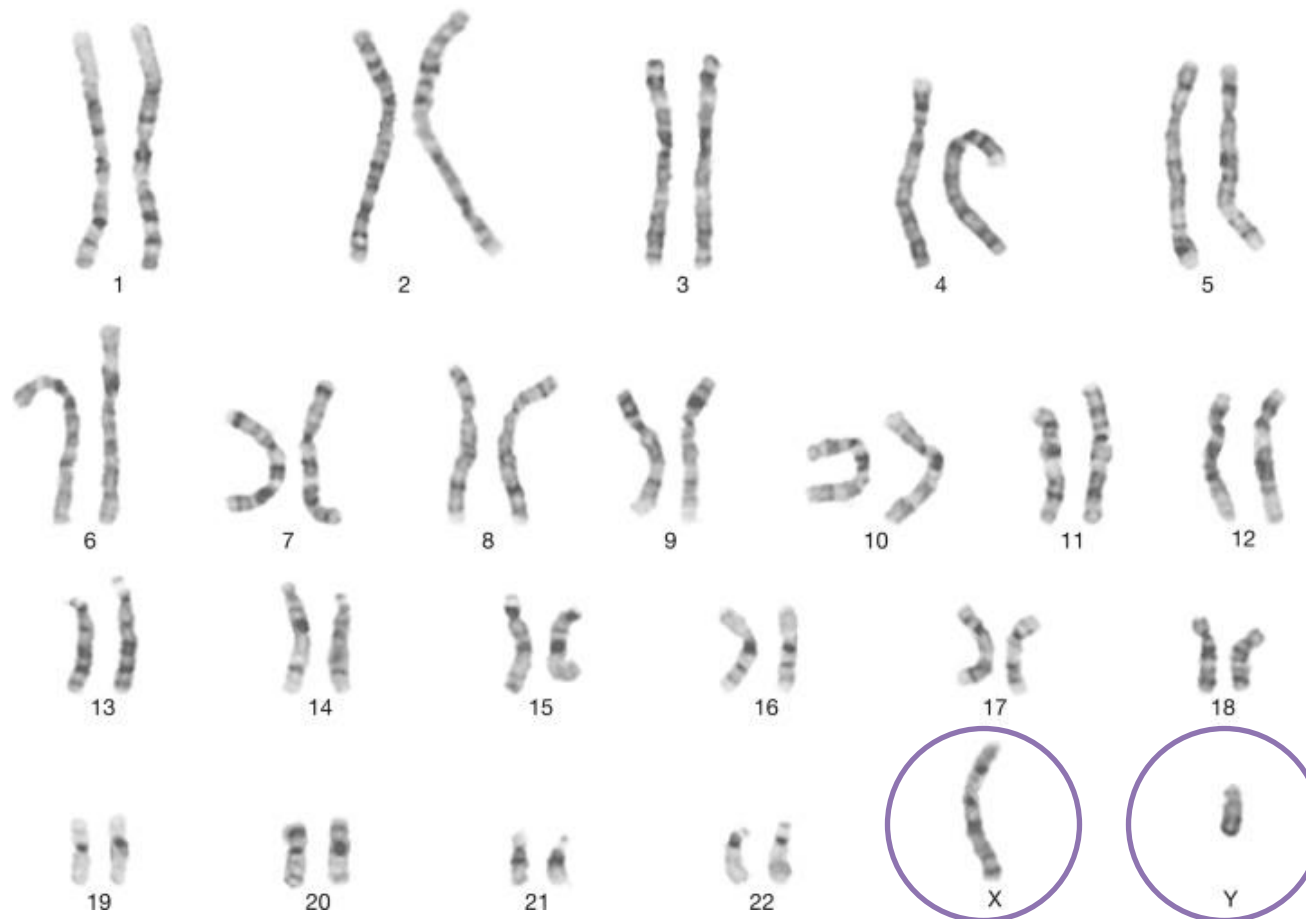
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2.1 Heredity

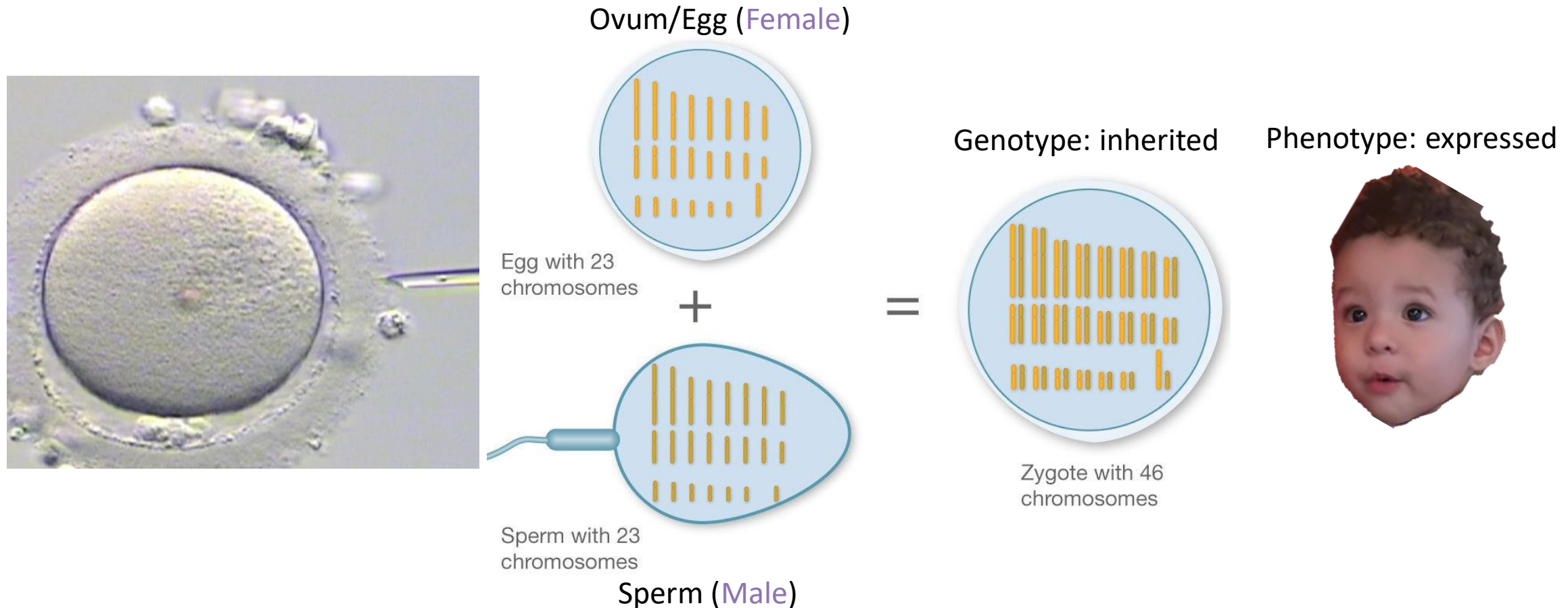
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2.1 Heredity

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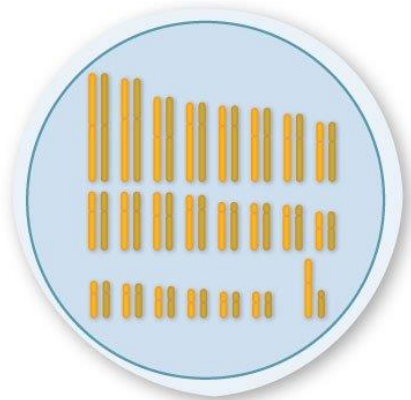




2.1 Heredity

- Genes: basic building block of the nature perspective. They are recipes for making proteins, while proteins influence the structure and functions of cells. Genes are located on the chromosomes.

Genotype: inherited



Zygote with 46 chromosomes

Phenotype: expressed



Homozygous (same)



Heterozygous: different

NOT MY HUSBAND lol

Homozygous Dominant



Heterozygous Dominant



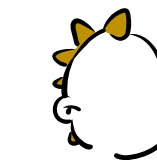
Homozygous Recessive



Homozygous Recessive



Heterozygous Dominant



Homozygous Dominant



Dominant: expressed Recessive: not expressed unless homozygous Polygenic: several genes

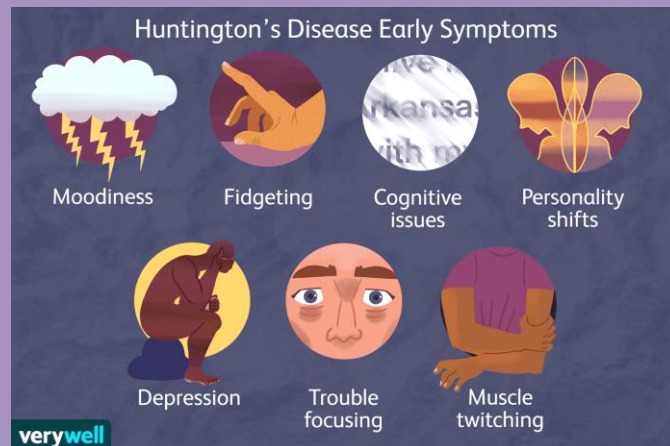


2.1 Heredity

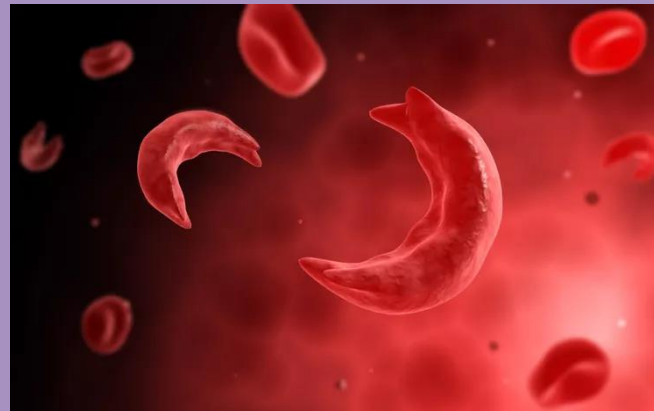
- Genetic Disorders



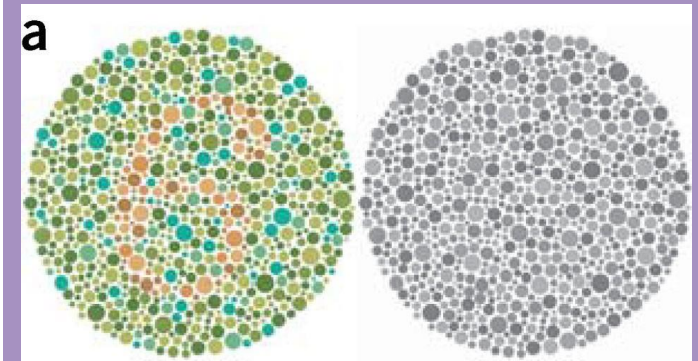
Dominant
Huntington's Disease (central nervous system)



Recessive
Sickle-cell Anemia (blood, oxygen)



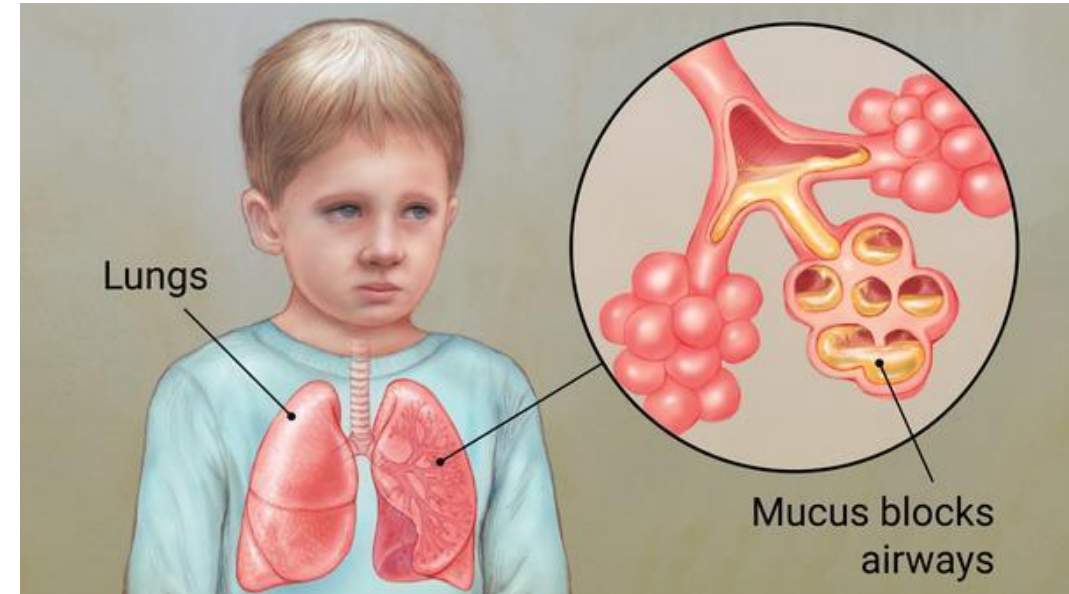
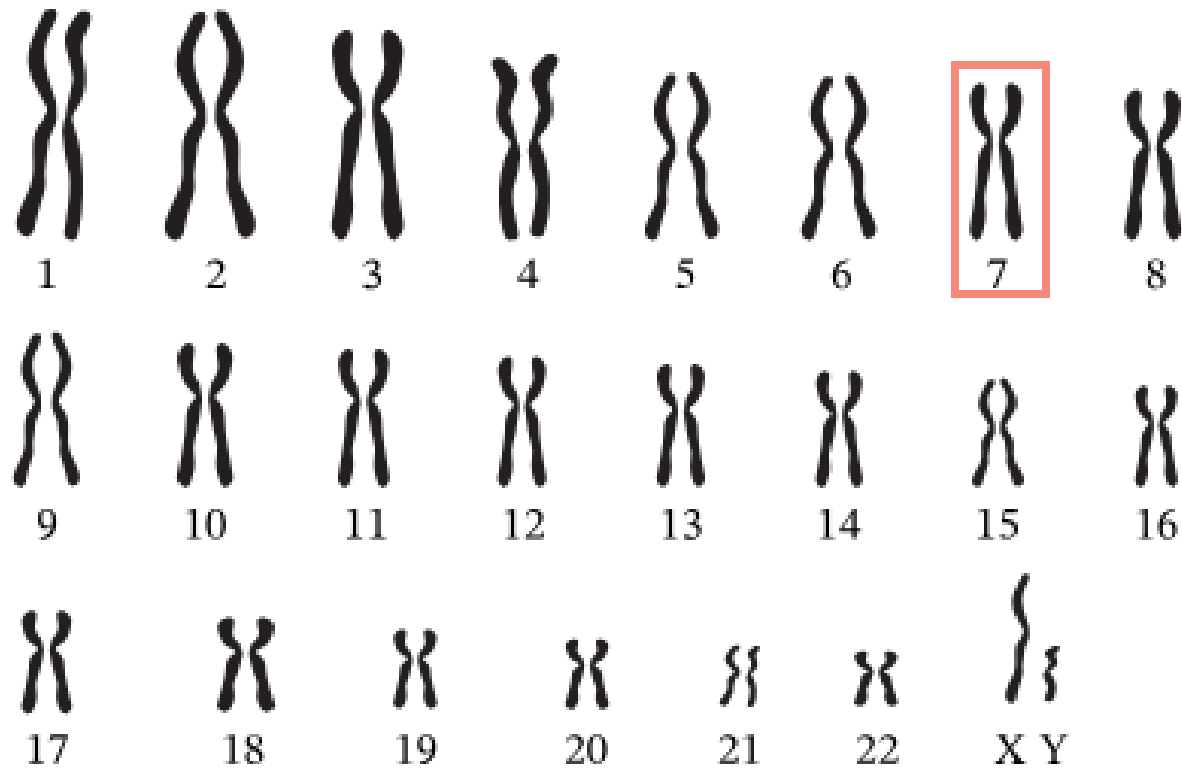
Sex-linked
Color-blindness (sight)





2.1 Heredity

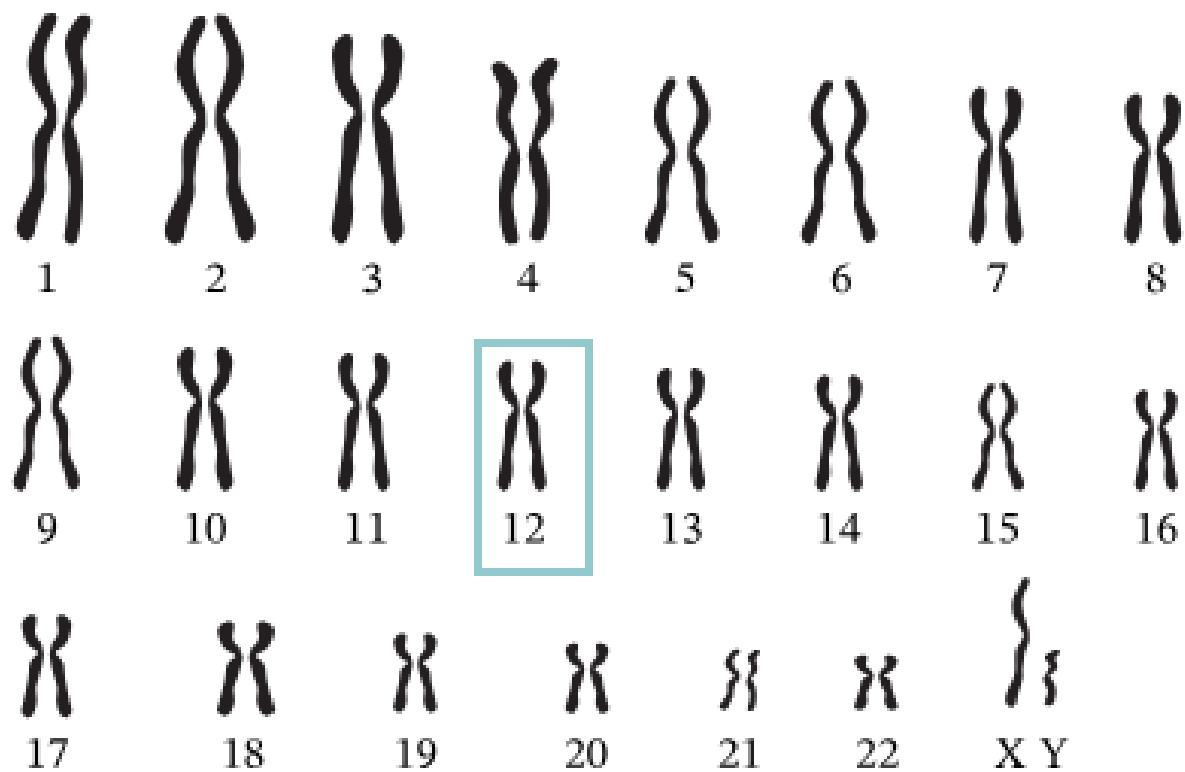
- Genetic Disorders: Chromosomal Abnormalities





2.1 Heredity

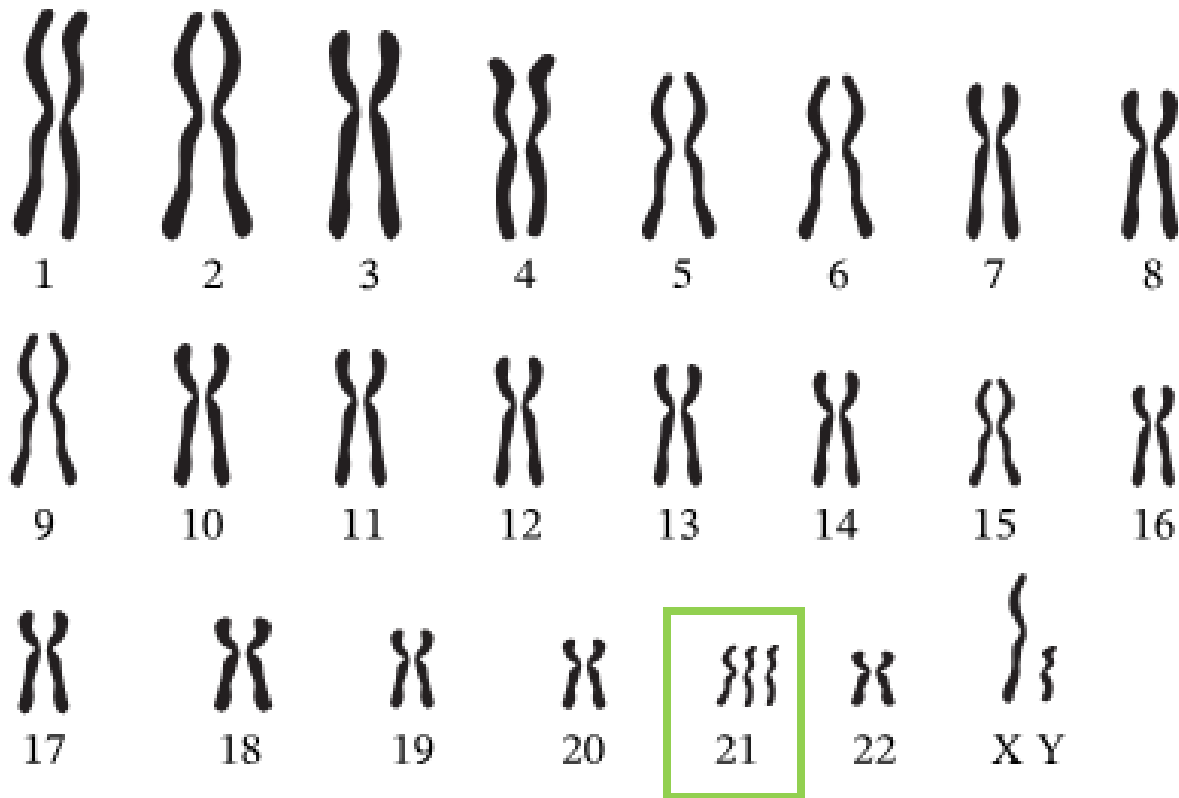
- Genetic Disorders: Chromosomal Abnormalities





2.1 Heredity

- Genetic Disorders: Chromosomal Abnormalities



HipLATINA

THIS WEEK IN LATINA HISTORY

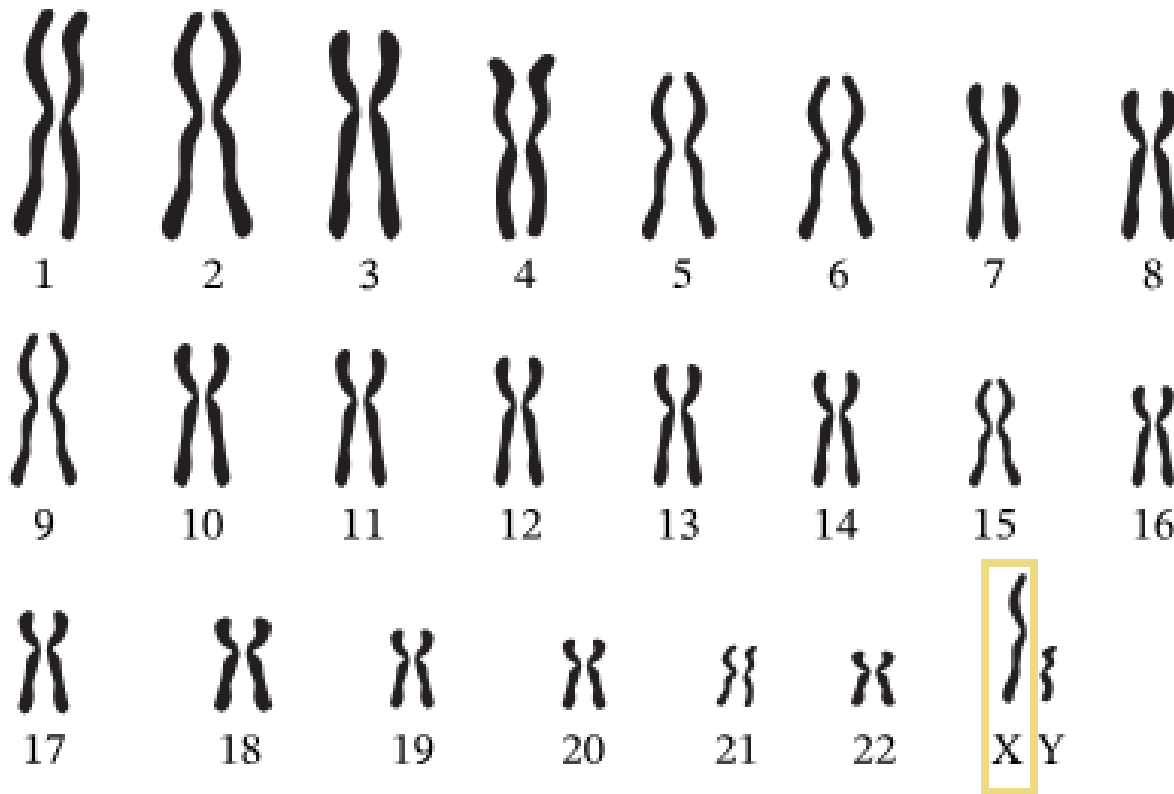
PHOTO: INSTAGRAM/@SOFIAJIRAU

Puerto Rican model Sofia Jirau broke barriers in fashion in 2022 when she became the first Victoria's Secret model with Down Syndrome. Her venture with the lingerie brand came when she formed part of the VS "Love Cloud Collection", a size inclusive collection and campaign. Back in 2020, Jirau was one of the few models with Down Syndrome to walk the runways of New York Fashion Week.

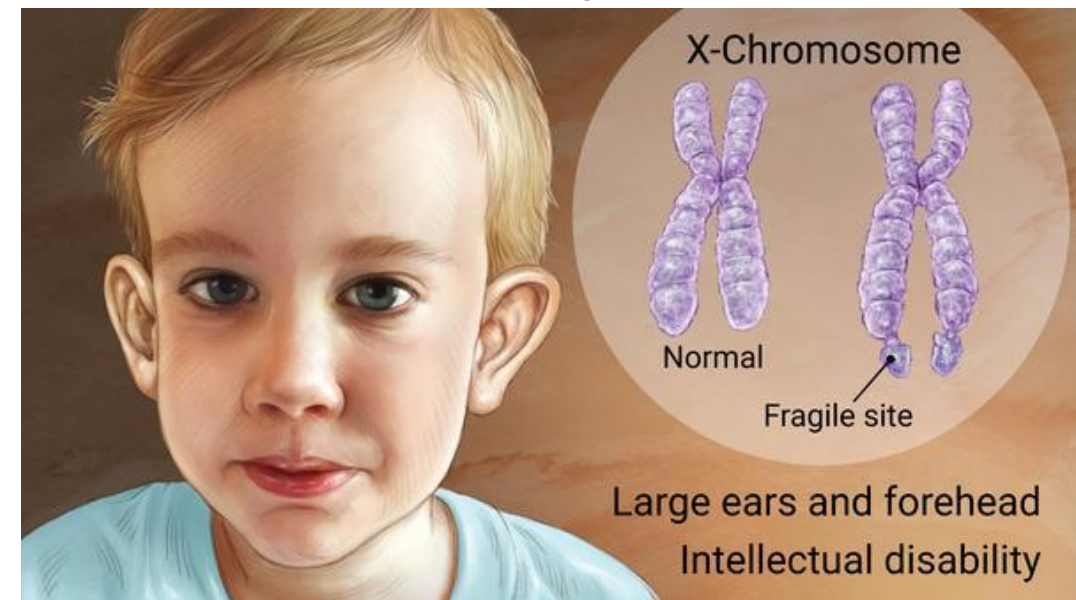
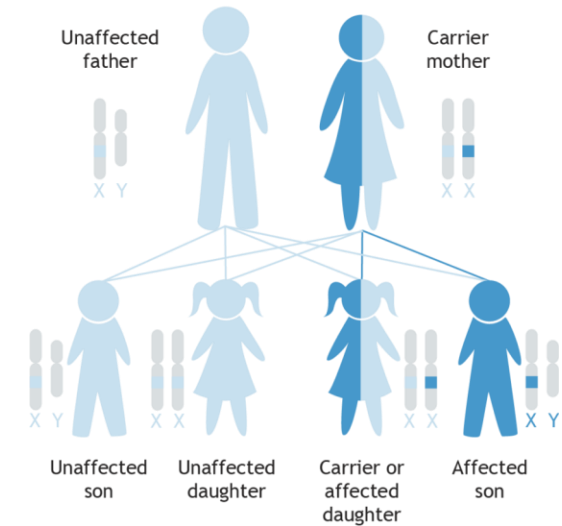


2.1 Heredity

- Genetic Disorders: Chromosomal Abnormalities



X-Linked Inheritance in Fragile X Syndrome





2.1 Heredity

- Genetic Disorders: Chromosomal Abnormalities

Recessive Disorders (Homozygous): The individual inherits a gene change from both parents. If the gene is inherited from just one parent, the person is a carrier and does not have the condition.

Table 2.2 - Recessive Disorders (Homozygous)¹¹

Disorder	Description	Cases per Birth
Sickle Cell Disease (SCD)	A condition in which the red blood cells in the body are shaped like a sickle (like the letter C) and affect the ability of the blood to transport oxygen.	1 in 500 Black births 1 in 36,000 Hispanic births
Cystic Fibrosis (CF)	A condition that affects breathing and digestion due to thick mucus building up in the body, especially the lungs and digestive system. In CF, the mucus is thicker than normal and sticky.	1 in 3500
Phenylketonuria (PKU)	A metabolic disorder in which the individual cannot metabolize phenylalanine, an amino acid. Left untreated, intellectual deficits occur. PKU is easily detected and is treated with a special diet.	1 in 10,000
Tay Sachs Disease	Caused by an enzyme deficiency resulting in the accumulation of lipids in the nerves cells of the brain. This accumulation results in progressive damage to the cells and a decrease in cognitive and physical development. Death typically occurs by age five.	1 in 4000 1 in 30 American Jews is a carrier 1 in 20 French Canadians is a carrier
Albinism	When the individual lacks melanin and processes little to no pigment in the skin, hair, and eyes. Vision problems can also occur.	Fewer than 20,000 US cases per year



2.1 Heredity

- Genetic Disorders: Chromosomal Abnormalities

Autosomal Dominant Disorders (Heterozygous): In order to have the disorder, the individual only needs to inherit the gene change from one parent.

Table 2.3 - Autosomal Dominant Disorders (Heterozygous)¹²

Disorder	Description	Cases per Birth
Huntington's Disease	A condition that affects the individual's nervous system. Nerve cells become damaged, causing various parts of the brain to deteriorate. The disease affects movement, behavior and cognition. It is fatal, and occurs at midlife.	1 in 10,000
Tourette Syndrome	A tic disorder which results in uncontrollable motor and vocal tics as well as body jerking	1 in 250
Achondroplasia	The most common form of disproportionate short stature. The individual has abnormal bone growth resulting in short stature, disproportionately short arms and legs, short fingers, a large head, and specific facial features.	1 in 15,000-40,000

Sex-Linked Disorders: When the X chromosome carries the mutated gene, the disorder is referred to as an X-linked disorder. Males are more affected than females because they possess only one X chromosome without an additional X chromosome to counter the harmful gene.

Table 2.4 - Sex-Linked Disorders¹³

Disorder	Description	Cases per Birth
Fragile X Syndrome	Occurs when the body cannot make enough of a protein it needs for the brain to grow and problems with learning and behavior can occur. Fragile X syndrome is caused from an abnormality in the X chromosome, which then breaks. If a female has a fragile X, her second X chromosome usually is healthy, but males with fragile X don't have a second healthy X chromosome. This is why symptoms of Fragile X usually are more serious in males.	1 in 4000 males 1 in 8000 females
Hemophilia	Occurs when there are problems in blood clotting causing both internal and external bleeding.	1 in 10,000 males
Duchenne Muscular Dystrophy	A weakening of the muscles resulting in an inability to move, wasting away, and possible death.	1 in 3500 males



2.1 Heredity

- Genetic Disorders: Chromosomal Abnormalities

Autosomal Chromosome Disorders: The individual inherits too many or two few chromosomes.

Table 2.5 - Autosomal Chromosomal Disorders¹⁵

Disorder	Description
Down Syndrome/Trisomy 21	Caused by an extra chromosome 21 and includes a combination of birth defects. Affected individuals have some degree of intellectual disability, characteristic facial features, often heart defects, and other health problems. The severity varies greatly among affected individuals.
Trisomy 9 Mosaicism	Caused by having an extra chromosome 9 in some cells. The severity of effects relates to the proportion of cells with extra chromosomes. The effects include fetal growth restriction resulting in low birth weight and multiple anomalies, including facial, cardiac, musculoskeletal, genital, kidney, and respiratory abnormalities.
Trisomy 13	Caused by an extra chromosome 13. Affected individuals have multiple birth defects and generally die in the first weeks or months of life.
Trisomy 18	Caused by an extra chromosome 18 and the affected individual also has multiple birth defects and early death.



Figure 2.1.5: Infant boy with Trisomy 9 Mosaicism. (Image by Ashley Onken used with permission)



Figure 2.1.6: Girl with XXX Syndrome. (Image is in the public domain)

When the abnormality is on 23rd pair, the result is a sex-linked chromosomal abnormality. This happens when a person has less than or more than two sex chromosomes. ¹⁸

Here is a table of some sex-linked chromosomal disorders:

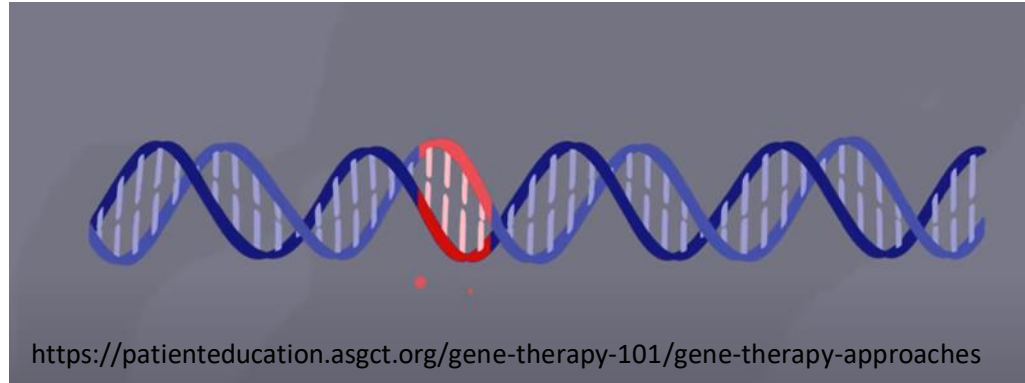
Table 2.6 - Sex-Linked Chromosomal Disorders¹⁹

Disorder	Description
Turner Syndrome (XO)	Caused when all or part of one of the X chromosomes is lost before or soon after conception due to a random event. The resulting zygote has an XO composition. Turner Syndrome affects cognitive functioning and sexual maturation in girls. Infertility and a short stature may be noted.
Klinefelter Syndrome (XXY)	Caused when an extra X chromosome is present in the cells of a male due to a random event. The Y chromosome stimulates the growth of male genitalia, but the additional X chromosome inhibits this development. The male can have some breast development, infertility, and low levels of testosterone.
XXY Syndrome	Caused when an extra Y chromosome is present in the cells of a male. There are few symptoms. They may include being taller than average, acne, and an increased risk of learning problems. The person is generally otherwise normal, including normal fertility.
Triple X Syndrome (XXX)	Caused when an extra X chromosome is present in the cells of a female. It may result in being taller than average, learning difficulties, decreased muscle tone, seizures, and kidney problems.



2.1 Heredity

- Genetic Testing: Careers
- Genetic Counselors
 - Currently genetic counselor tests parents for susceptibility to disorders due to genetic abnormalities
 - More than 1,000 disorders, such as Huntington's disease, can be predicted based on genetic testing
- Germ line therapy: Process by which genetic modifications can correct defective genes in unborn children
- 23 and me



<https://patienteducation.asgct.org/gene-therapy-101/gene-therapy-approaches>



Marjorine, people with your genetics in their 30s wake up on average around **8:35 am** on their days off.



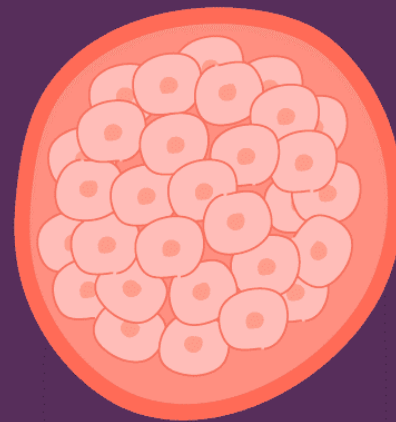
2.2 Prenatal Development

Germinal
[0-2 weeks]

Embryonic
[3-8 weeks]

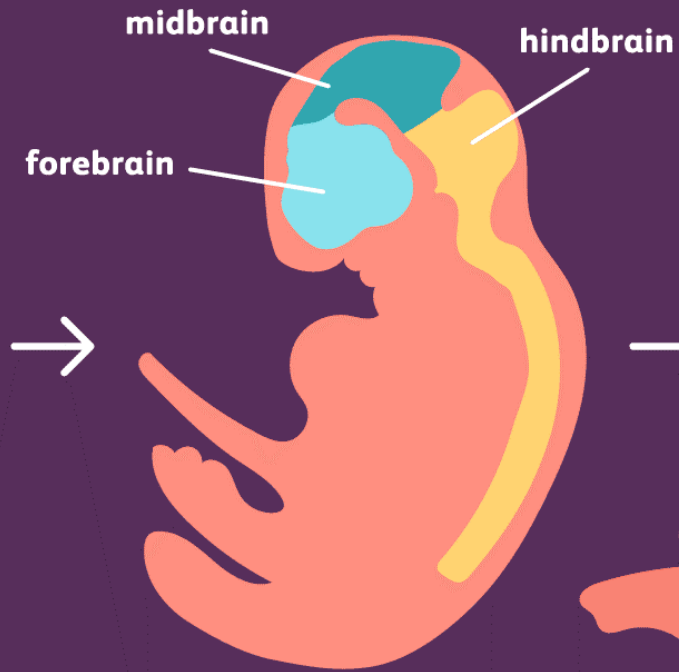
Fetal
[9 weeks-birth]

Germinal



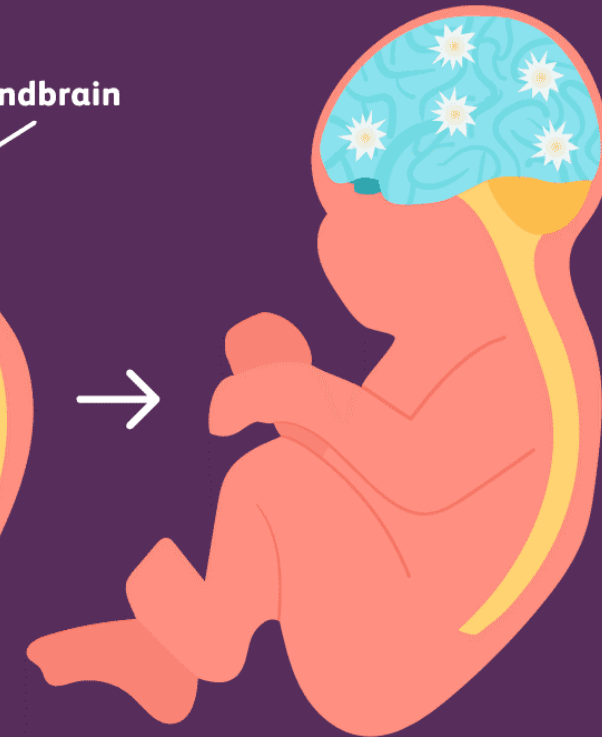
0-2 weeks

Embryonic



3-8 weeks

Fetal



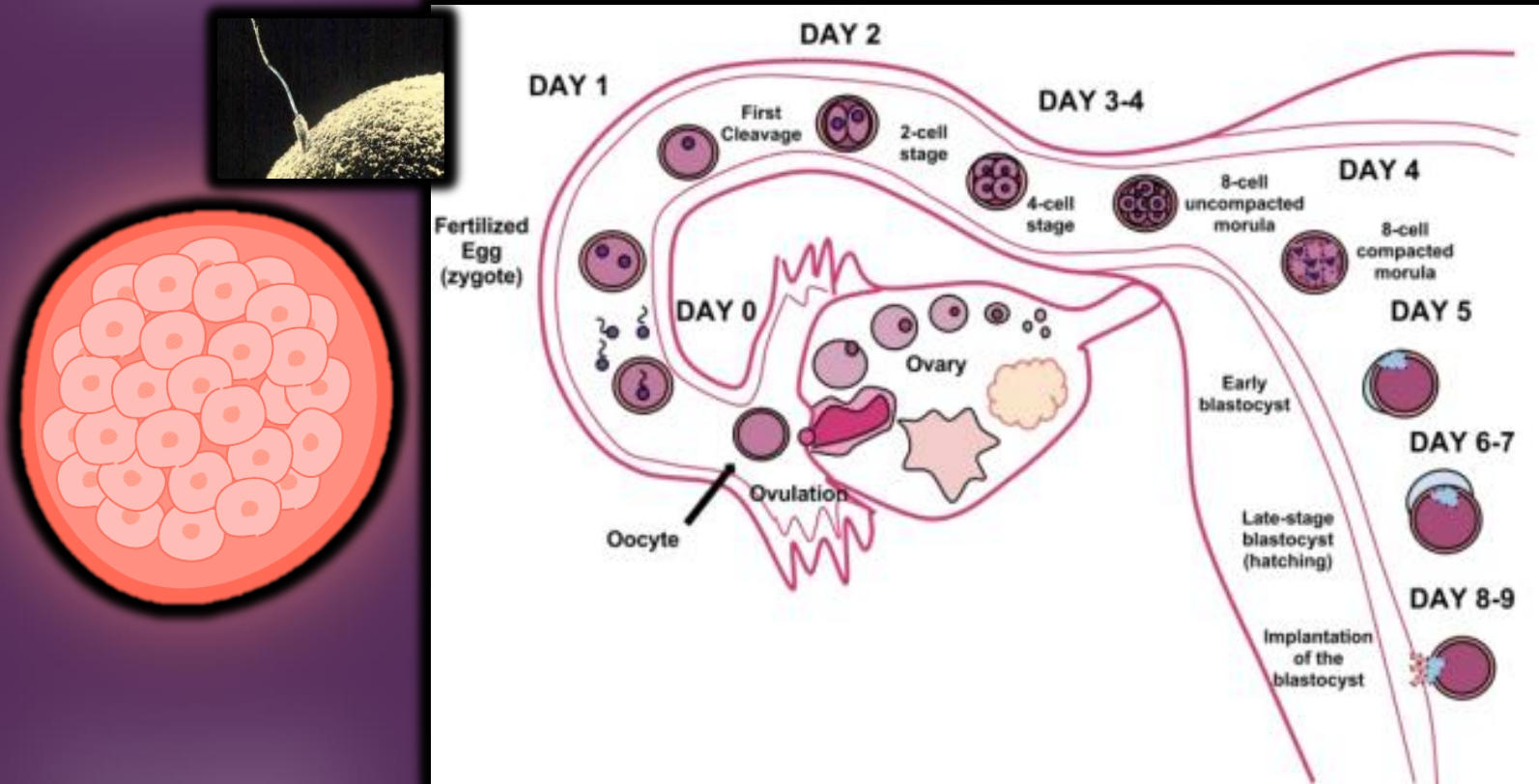
9 weeks-birth



2.2 Prenatal Development

Germinal
[0-2 weeks]

Conception
Implantation of fertilized egg
in the lining of the uterus

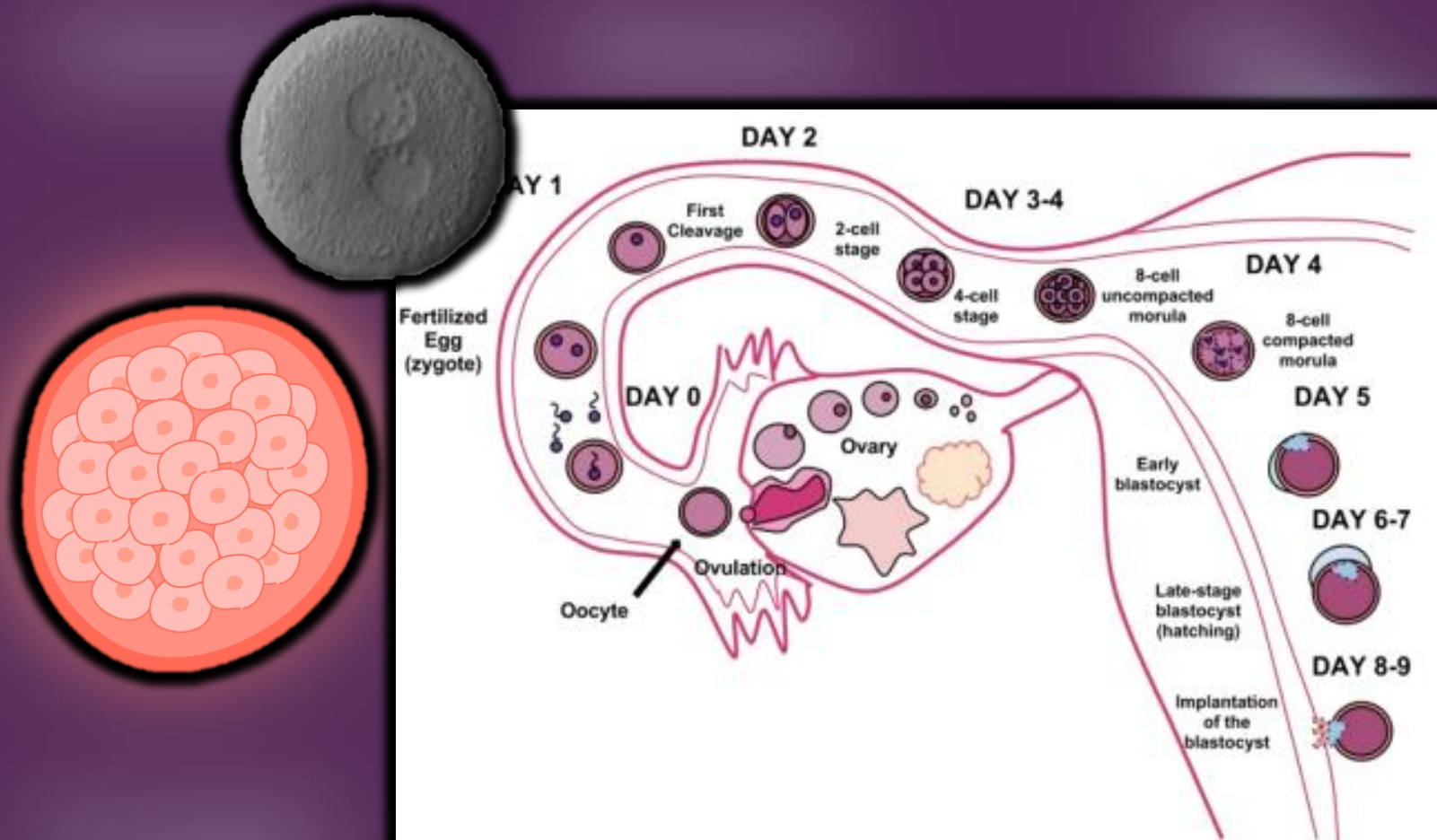




2.2 Prenatal Development

Germinal
[0-2 weeks]

Zygote
cell containing the
combined genetic
information from both
parents

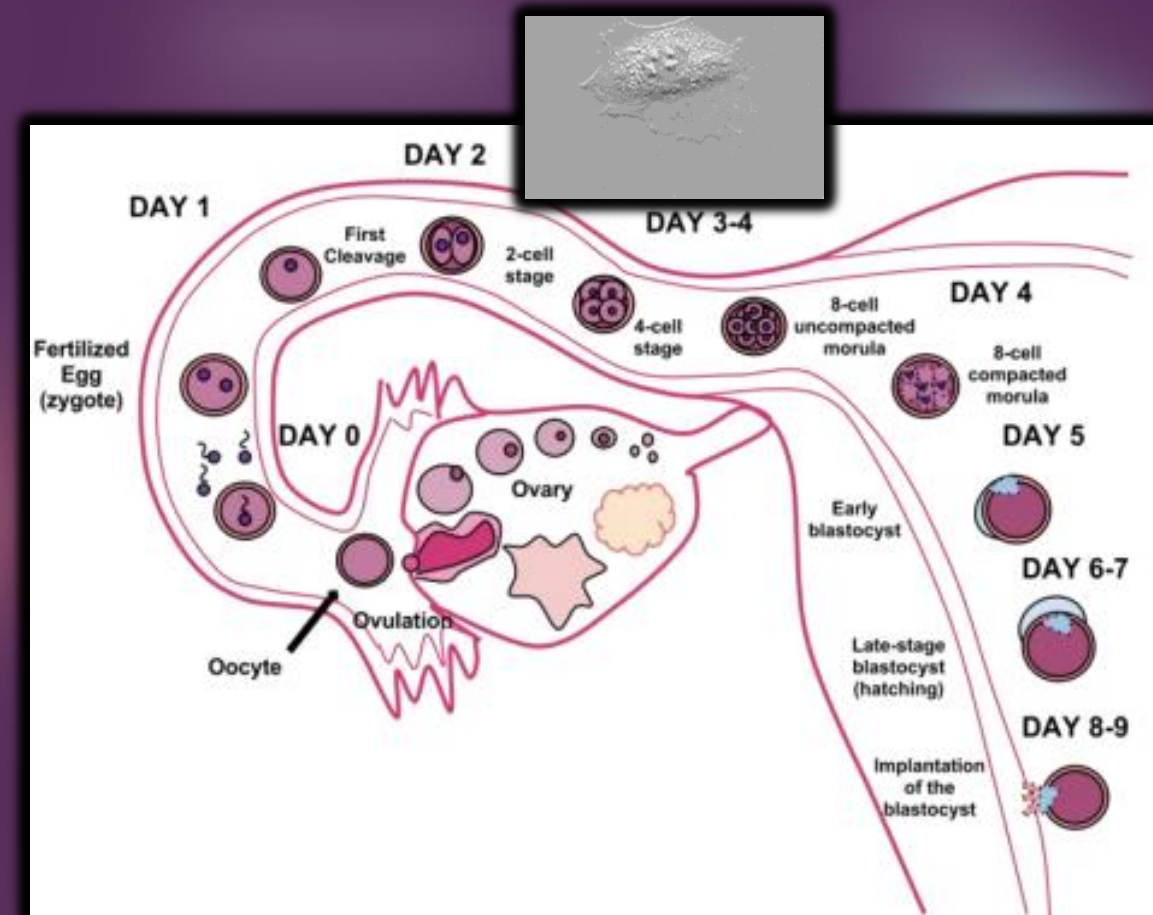
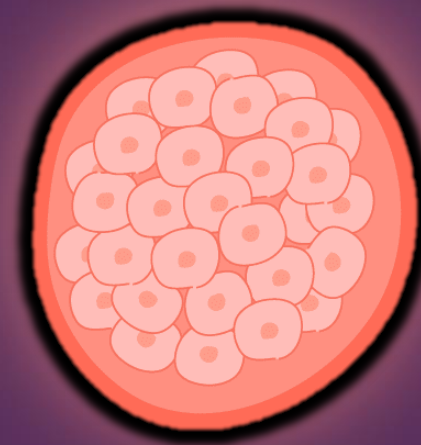




2.2 Prenatal Development

Germinal
[0-2 weeks]

Mitosis
Cell division process

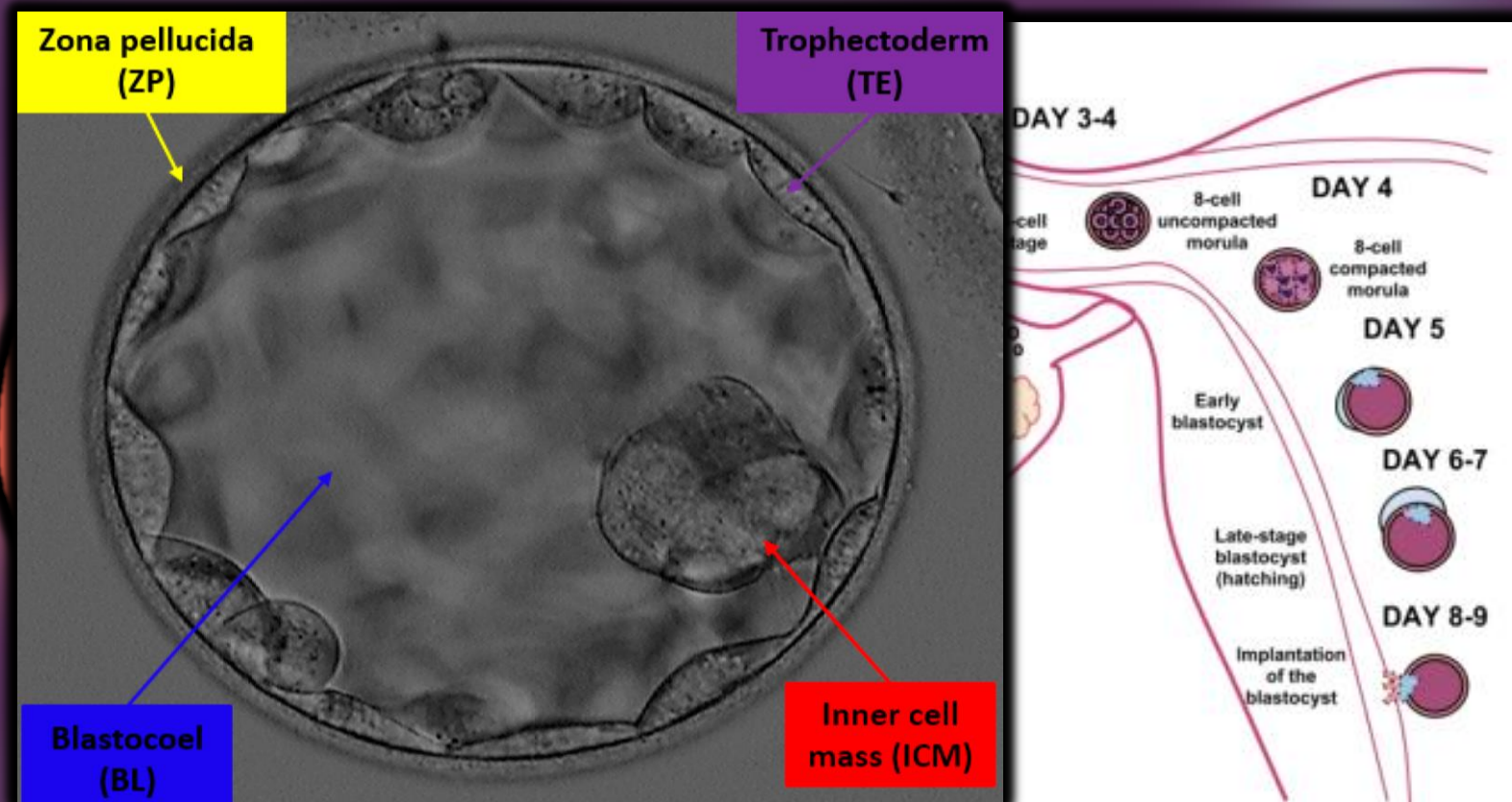




2.2 Prenatal Development

Germinal
[0-2 weeks]

Blastocyst
consists of both an inner
and an outer group of
cells.

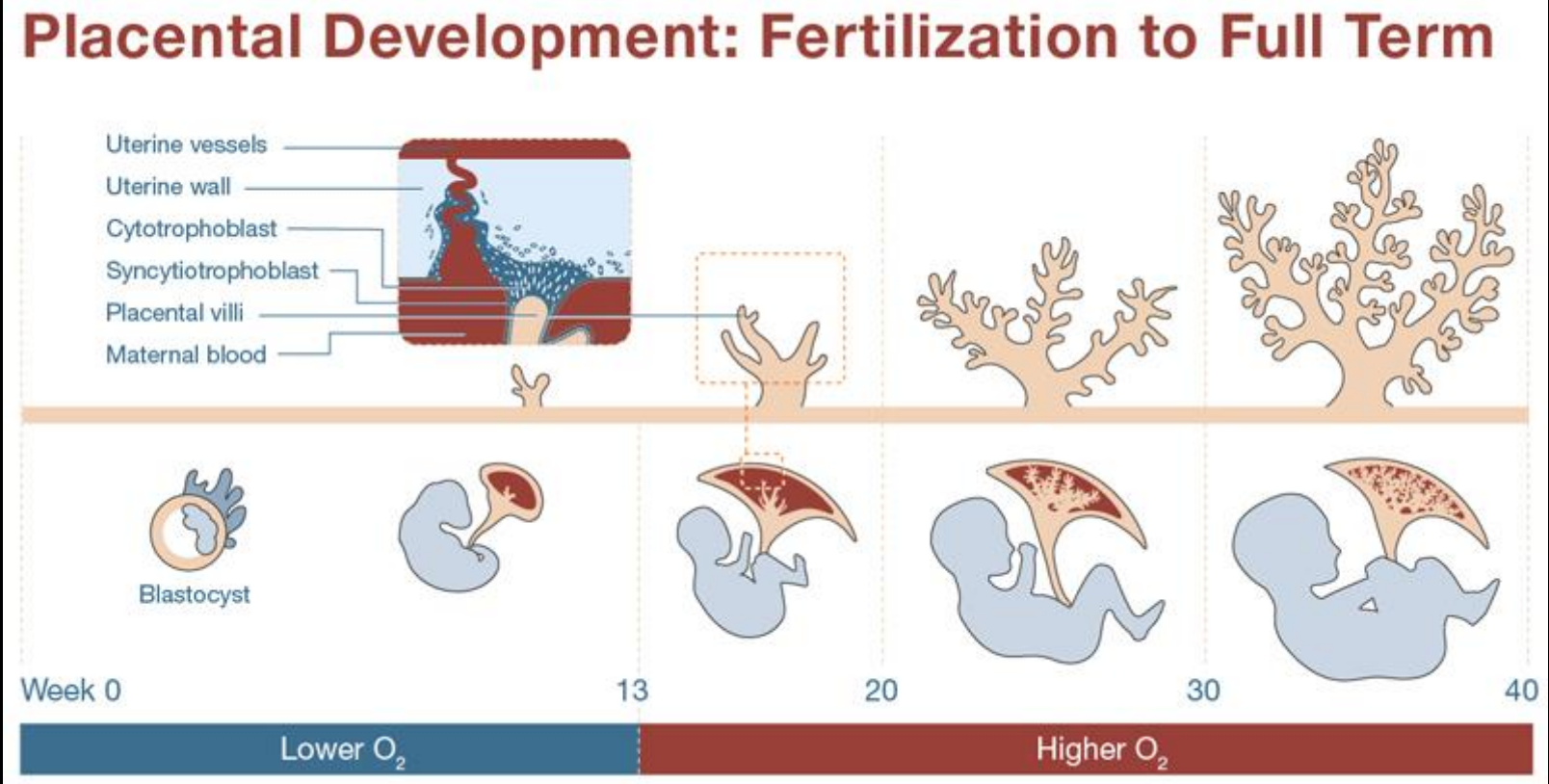




2.2 Prenatal Development

Placenta provides nourishment and oxygen from the mother to the developing embryo

Embryonic
[3-8 weeks]

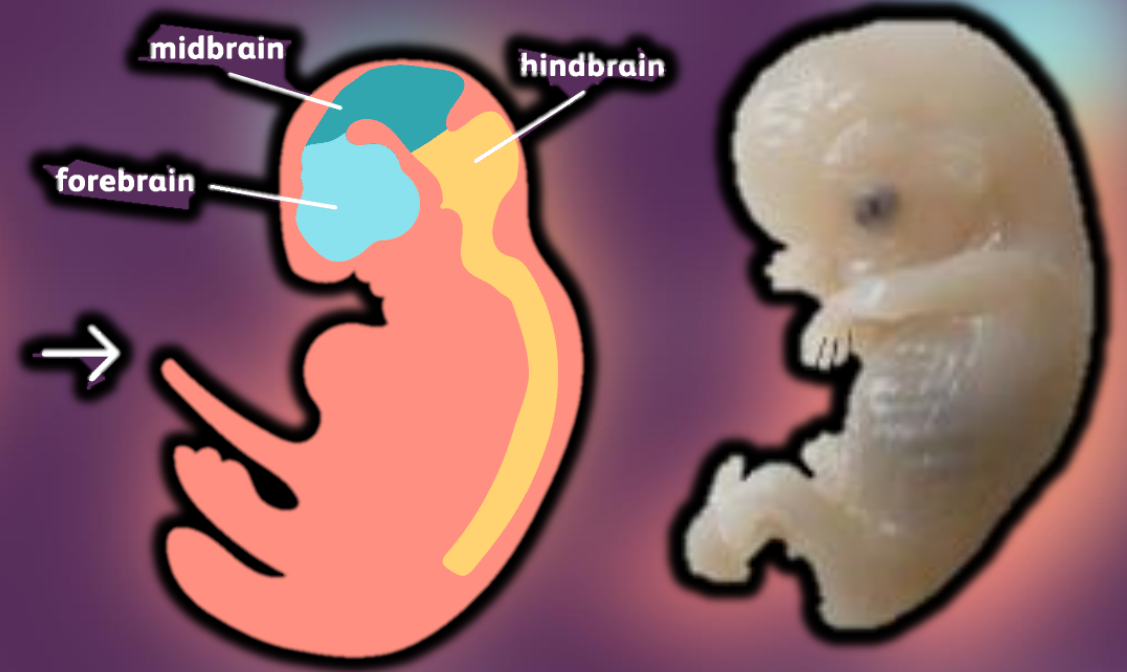




2.2 Prenatal Development

Embryonic
[3-8 weeks]

Embryo
multi-cellular organism
implanted into the uterus

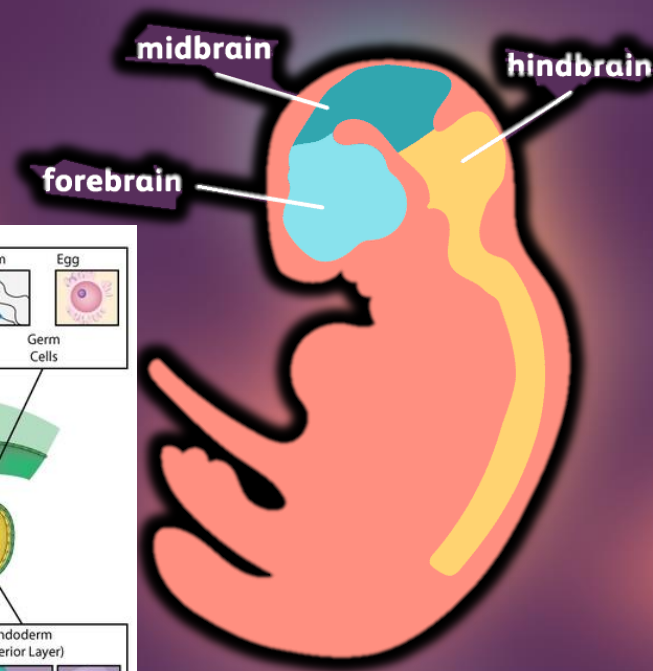
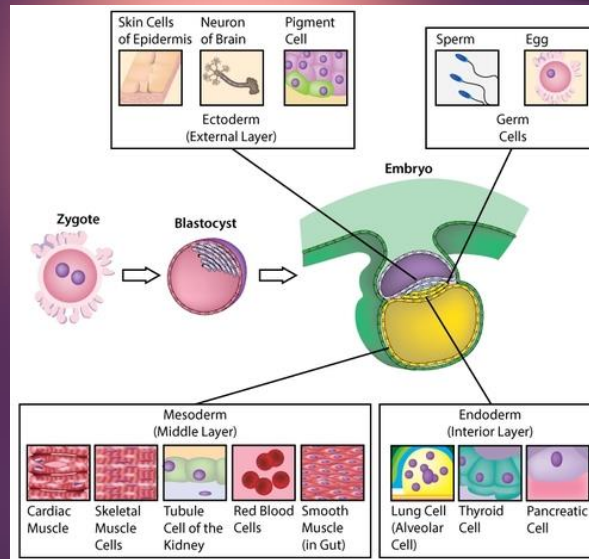




2.2 Prenatal Development

Embryonic
[3-8 weeks]

Cell Differentiation

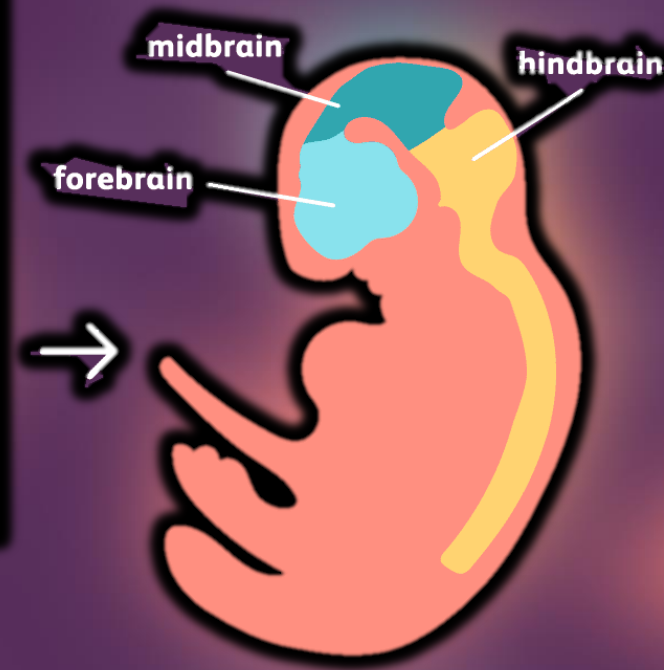
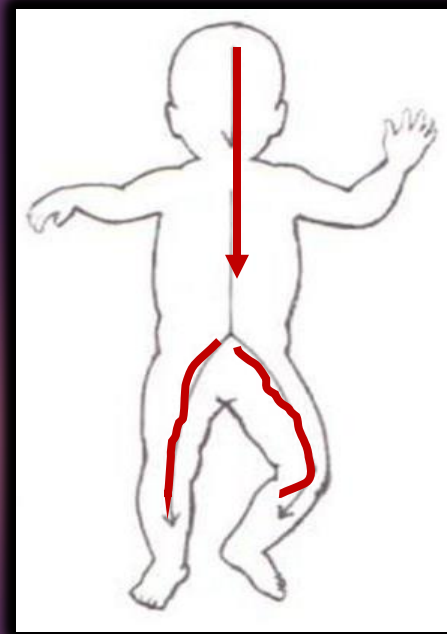




2.2 Prenatal Development

Embryonic
[3-8 weeks]

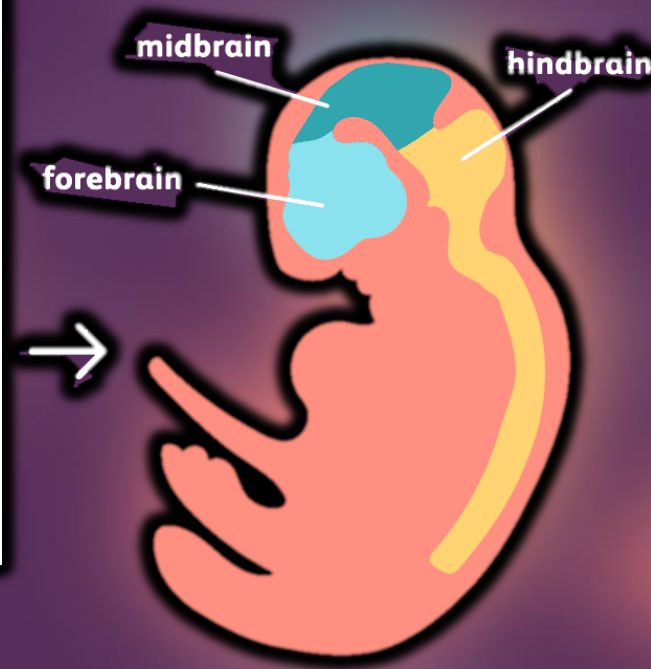
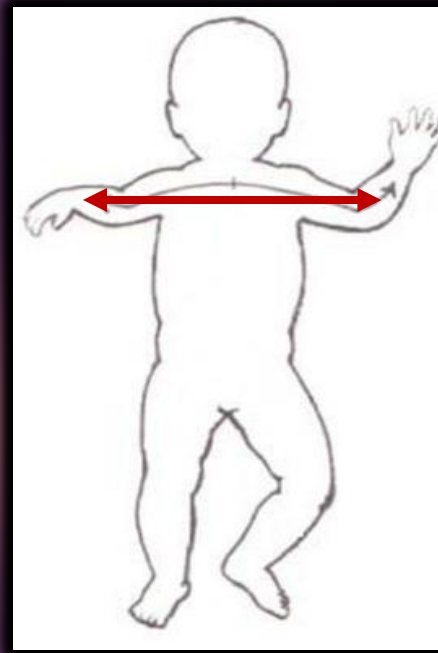
Cephalocaudal
Development
head to tail





2.2 Prenatal Development

Embryonic
[3-8 weeks]



Proximodistal
Development
structures nearest
grow first



2.2 Prenatal Development

Fetus



Fetal
[9 weeks-birth]



Fetal

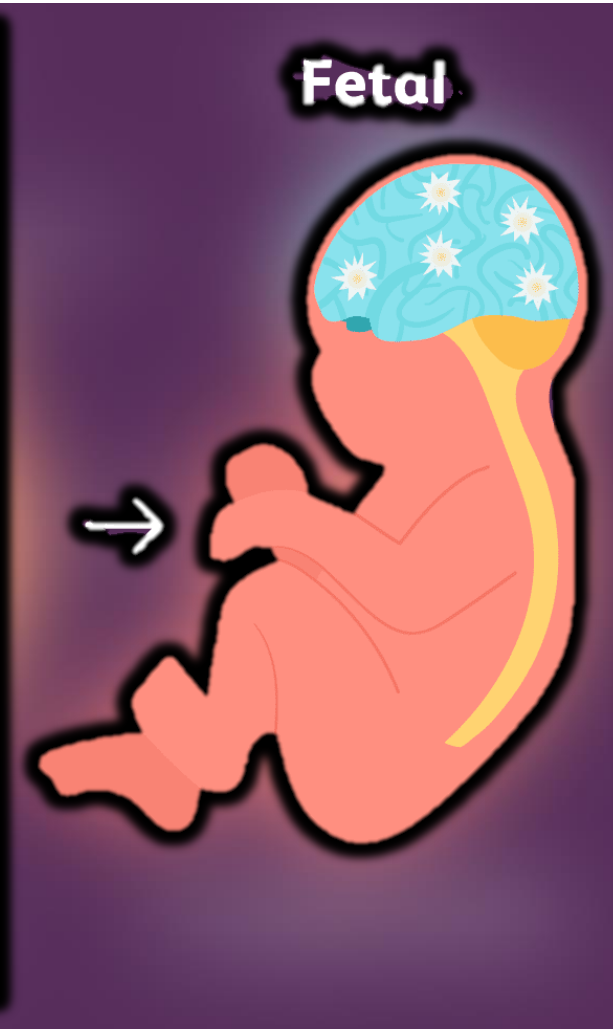




2.2 Prenatal Development

Month 3-4
Sex Organs differentiate
Risk of miscarriage decreased

Fetal
[9 weeks-birth]





2.2 Prenatal Development

Fetal
[9 weeks-birth]

Month 5-6
Lung development
*22 weeks viability

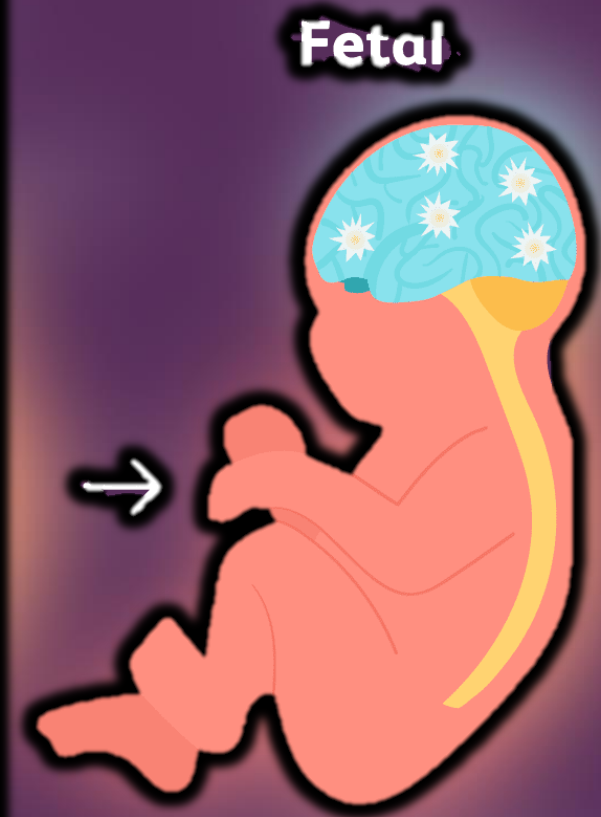
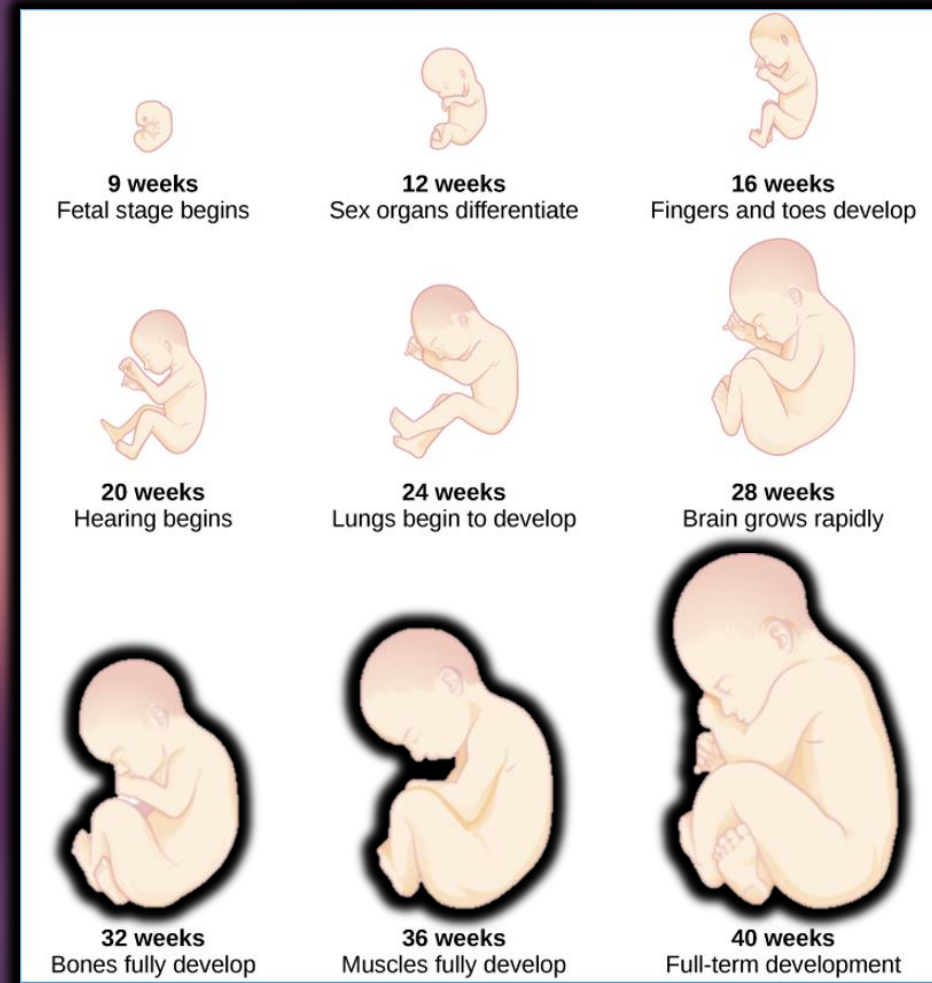




2.2 Prenatal Development

Fetal
[9 weeks-birth]

Month 7-9
Muscle, fat growth,
Position for birth





2.2 Prenatal Development: Teratogens

environmental factors that can contribute to birth defects

The timing of the exposure

The amount of exposure

Number of teratogens

Genetics

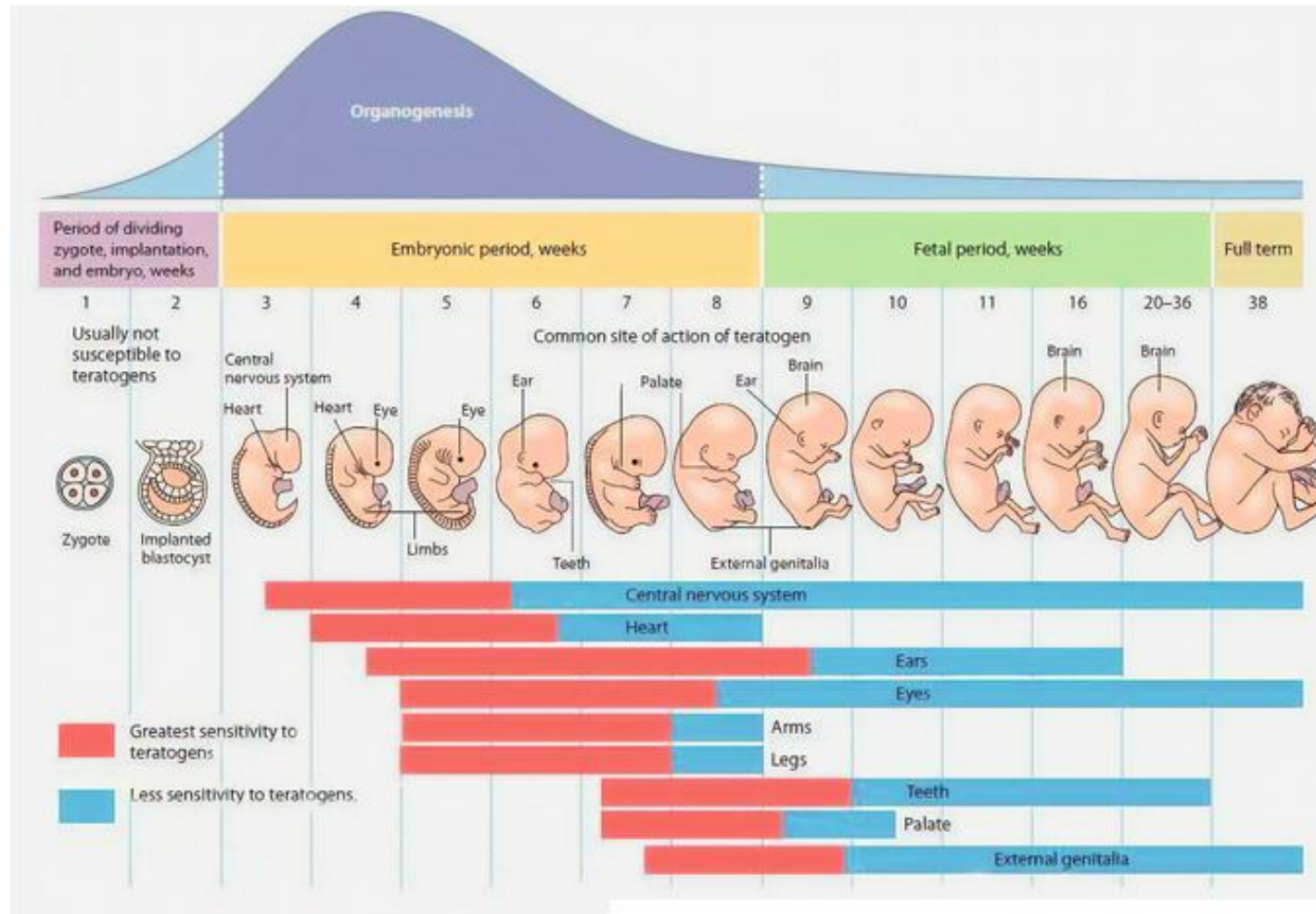
Bring male or female

Physical

Metabolic conditions affecting pregnant females

Infections

Drugs and Chemicals





2.2 Prenatal Development: Teratogens

Table 2.2.1: Drugs as Teratogens

Teratogen	Potential Effects
Caffeine	Moderate amounts of caffeine (200 mg or around 12 ounces of coffee) appear to be safe during pregnancy. Some studies have shown a link between higher amounts of caffeine and miscarriage and preterm birth. ³⁴
Tobacco	Tobacco use has been associated with low birth weight, placenta previa, preterm delivery, fetal growth restriction, sudden infant death syndrome, cleft lip or palate, and later health problems (such as high blood pressure and diabetes). ³⁵
Alcohol	There is no safe amount of alcohol a woman can drink while pregnant. Alcohol can slow down the baby's growth, affect the baby's brain, and cause birth defects, and may result in fetal alcohol spectrum disorder (FASD). The effects can be mild to severe. Children born with a severe form of FASD can have abnormal facial features, severe learning disabilities, behavioral problems, and other problems. ³⁶
Cocaine	Cocaine use has been connected with low birth weight, stillbirths, spontaneous abortion, placental abruption, premature birth, miscarriage, and neonatal abstinence syndrome (fetal addiction leads the newborn to experience withdrawal). ³⁷
Marijuana	No amount of marijuana has been proven safe to use during pregnancy. Heavy use has been associated with brain damage, premature birth, and stillbirth. ³⁸
Heroin	Using heroin during pregnancy can cause birth defects, placental abruption, premature birth, low birthweight, neonatal abstinence syndrome, still birth, and sudden infant death syndrome. ³⁹
Over-the-Counter (OTC) medication	Some OTC medications are safe to use during pregnancy and others may cause health problems during pregnancy. Pregnant women should consult their health care provider before using OTC medications. ⁴⁰
Prescription drugs	Some prescription drugs can cause birth defects that change the shape or function of one or more parts of the body that can affect overall health. Pregnant women should consult their health care provider before discontinuing or starting new medications. ⁴¹
Herbal or dietary supplements	Except for some vitamins, little is known about using herbal or dietary supplements while pregnant. Most often there are no good studies to show if the herb can cause harm to you or your baby. Also, some herbs that are safe when used in small amounts as food might be harmful when used in large amounts as medicines. ⁴²



2.2 Prenatal Development: Teratogens

Table 2.2.2: Environmental Teratogens

Teratogen	Potential Effects
Lead	Exposure to high levels of lead before and during pregnancy can lead to high blood pressure, problems with fetal brain and nervous system development, premature birth, low birthweight, and miscarriage. ⁴³
Mercury	Exposure to mercury in the womb can cause brain damage and hearing and vision problems. ⁴⁴
Radiation	Exposure to radiation during pregnancy (especially between 2 and 18 weeks of pregnancy) can slow growth, cause birth defects, affect brain development, cause cancer, and cause miscarriage. ⁴⁵
Solvents	These chemicals include degreasers, paint thinners, stain and varnish removers, paints, and more. Maternal inhalation of solvents can cause fetal exposure that may cause miscarriage, slow fetal growth, premature birth, and birth defects. ⁴⁶

Table 2.2.3: Maternal Infections as Teratogens









Teratogen	Potential Effects
Rubella	Congenital infection (becoming infected while in the womb) can damage the development of the eyes, ears, heart, and brain and result in deafness. ⁴⁷
Zika	Congenital infection can cause microcephaly and other severe brain abnormalities. ⁴⁸
Varicella (chicken pox)	Congenital infection can cause a severe form of the infection affecting the eyes, limbs, skin, and central nervous system. ⁴⁹
Sexually transmitted infections	Infections such as HIV, gonorrhea, syphilis, and chlamydia can be passed from the mother during pregnancy and/or delivery. ⁵⁰
Listeria	Pregnant women are more susceptible to this food-borne illness. Congenital infection can cause miscarriage, stillbirth, premature labor, and neonatal sepsis. ⁵¹

Table 2.2.4: Teratogens from Animals/Pets

Teratogen	Potential Effects
Toxoplasmosis	This parasite can be passed through cat feces and undercooked meat (especially pork, lamb, or deer meat). If the fetus is infected it can cause miscarriage, stillbirth, hydrocephalus, macro or microcephalus, vision issues, and damage to the nervous system. ⁵²
Lymphocytic choriomeningitis	This virus carried by rodents including mice, hamsters, and guinea pigs. If an infected mother passes it to her fetus it can cause issues with brain development, long-term neurological and/or visual impairment, and higher mortality rates after birth. ⁵³



2.2 Prenatal Development: Maternal Factors

	Mothers over 35 (Geriatric)
	Teenage Pregnancy
	Gestational Diabetes
	High Blood Pressure
	Rh Disease
	Weight Gain during Pregnancy
	Stress
	Depression





2.2 Prenatal Development: Maternal Factors



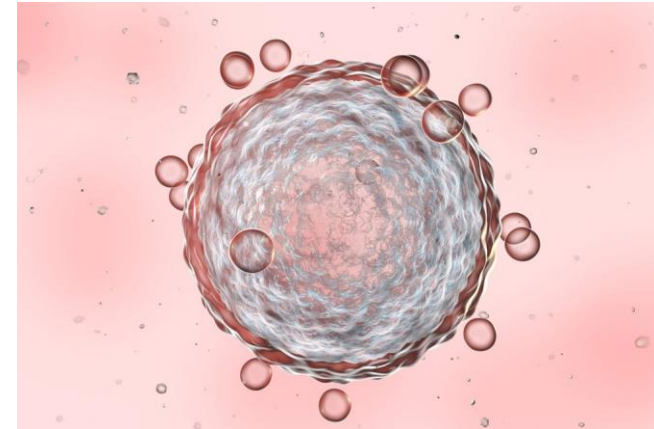
Mothers over 35 (Geriatric)

Increased risk of:

- Fertility problems
- High blood pressure
- Diabetes
- Miscarriages
- Placenta Previa
- Cesarean section
- Premature birth
- Stillbirth
- A baby with a genetic disorder or other birth defects

Positives:

- More mature parent
- More Stable
- Stronger family focus
- Greater self confidence
- Tend to have more money and formal education





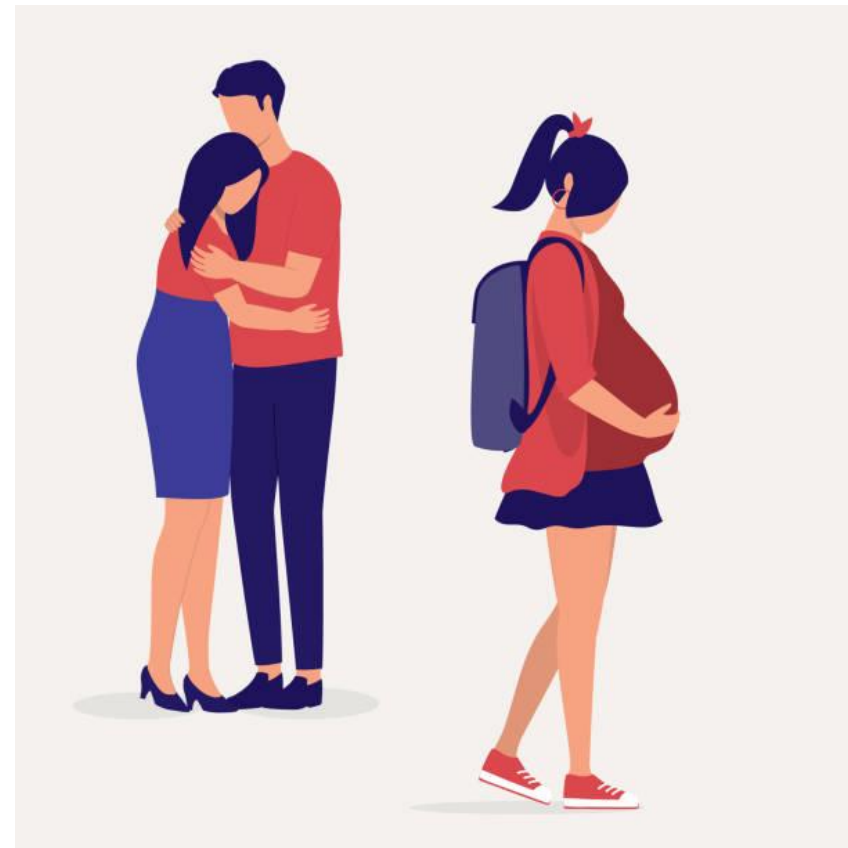
2.2 Prenatal Development: Maternal Factors



Teenage Pregnancy

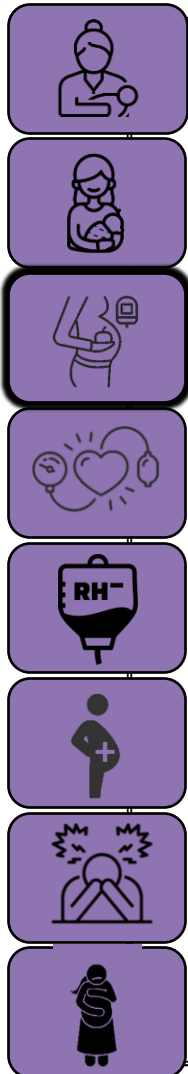
Increased risk of:

- Anemia
- High Blood Pressure
- Premature birth
- Low birthweight
- Issues with developing organs
- Less likely to get prenatal care
- Engage in negative behaviors





2.2 Prenatal Development: Maternal Factors



Gestational Diabetes

A condition where the body has too much glucose in the bloodstream.

Increased risk of:

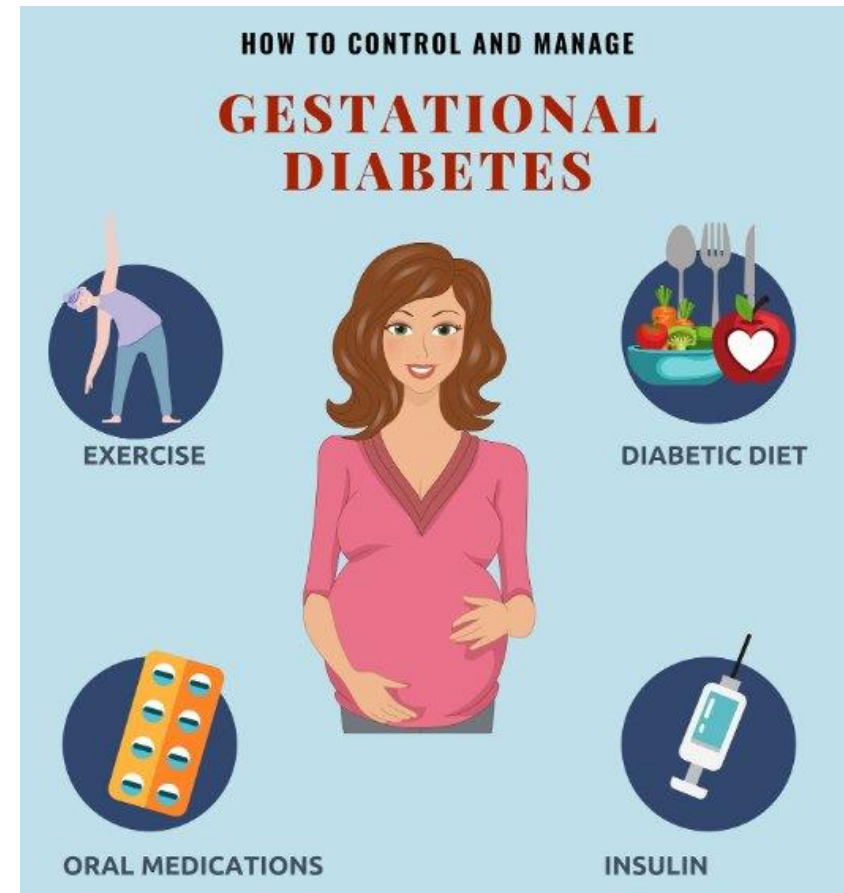
- Premature birth
- Stillbirth
- The baby having breathing problems at birth
- Jaundice
- Low blood sugar
- Babies can be heavier >9lbs
- Preeclampsia

Risk factors:

- Being over 25 years old
- Being overweight or gaining too much weight during pregnancy
- Family history of diabetes
- Had gestational diabetes previously
- African-American, Native American, Hispanic, Asian, or Pacific Islander have a higher risk

Can be managed with diet and exercise: high protein, low carb, lots of veggies, water.

Sometimes medication is prescribed.





2.2 Prenatal Development: Maternal Factors



High Blood Pressure

A condition in which the pressure against the wall of the arteries becomes too high.

- Gestational hypertension: only occurs during pregnancy and goes away after birth.
- Chronic high blood pressure:
 - already had hypertension before the pregnancy
 - developed it during pregnancy and it did not go away after birth

Increased risk of:

- Premature birth
- Low birth weight (under five and a half pounds)
- Placental abruption
- Preeclampsia.





2.2 Prenatal Development: Maternal Factors



A form of anemia where the body produces antibodies to fight off what it thinks is a foreign body (the red blood cells of the fetus).

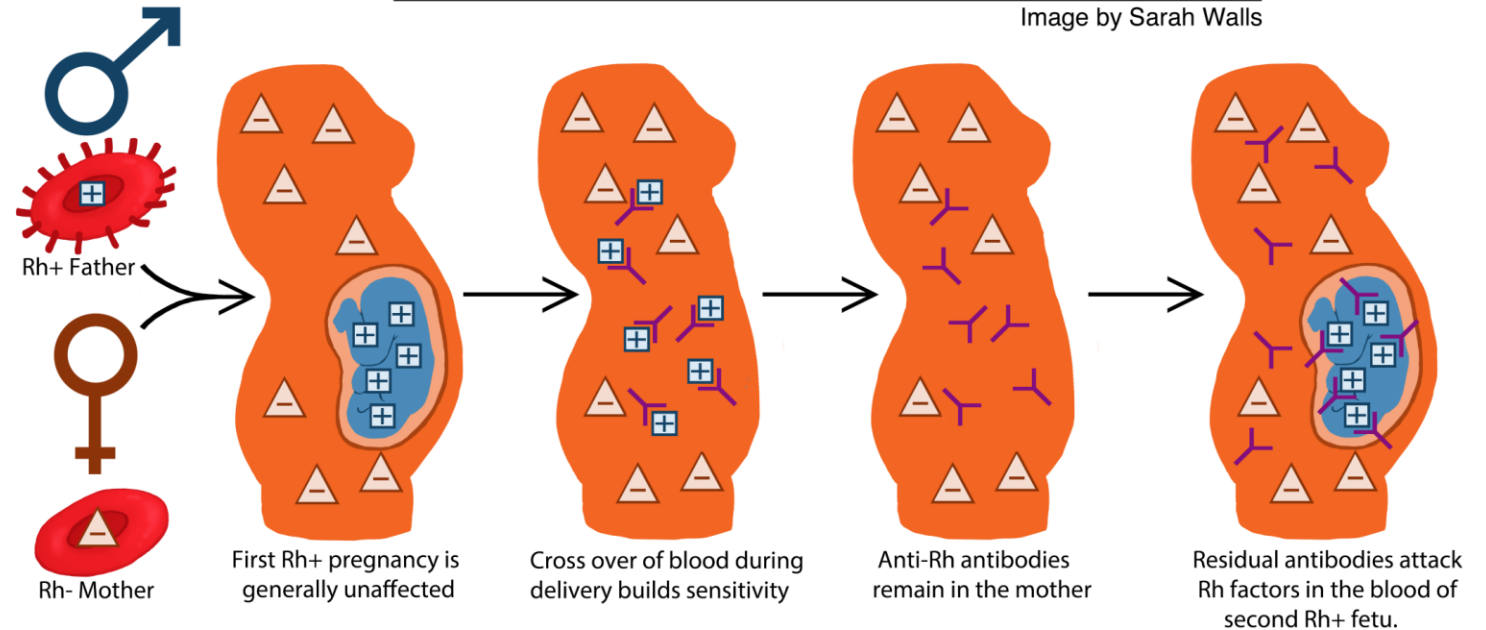
Increased risk of:

- Jaundice
- Anemia
- Heart failure
- Brain damage
- Death

Rh Disease

Rh Incompatibility in Pregnancy

Image by Sarah Walls





2.2 Prenatal Development: Maternal Factors



Weight Gain during Pregnancy

Increased risk of:

- Diabetes
- Preeclampsia



Table 2.2.5: Weight Gain during Pregnancy

If you were a healthy weight before pregnancy:	If you were underweight before pregnancy:	If you were overweight before pregnancy:	If you were obese before pregnancy:
<ul style="list-style-type: none"> • Gain 25-35 pounds • 1-4 1/2 pounds in the 1st trimester • 1 pound per week in the 2nd and 3rd trimesters 	<ul style="list-style-type: none"> • Gain 28-30 pounds • 1-4 1/2 pounds in the 1st trimester • A little more than 1 pound per week thereafter 	<ul style="list-style-type: none"> • Gain 12-25 pounds • 1-4 1/2 pounds in the 1st trimester • A little more than 1/2 pound per week in 2nd and 3rd trimesters 	<ul style="list-style-type: none"> • 11-20 pounds • 1-4 1/2 pounds in the 1st trimester • A little more than 1/2 pound per week in 2nd and 3rd trimesters



2.2 Prenatal Development: Maternal Factors



Increased risk of:

- Premature baby
- Low-birthweight baby
- Infection
- Smoking, drinking alcohol, or taking drugs
- Problems in the baby's brain development and immune system functioning
- Childhood problems such as trouble paying attention and being afraid

Stress





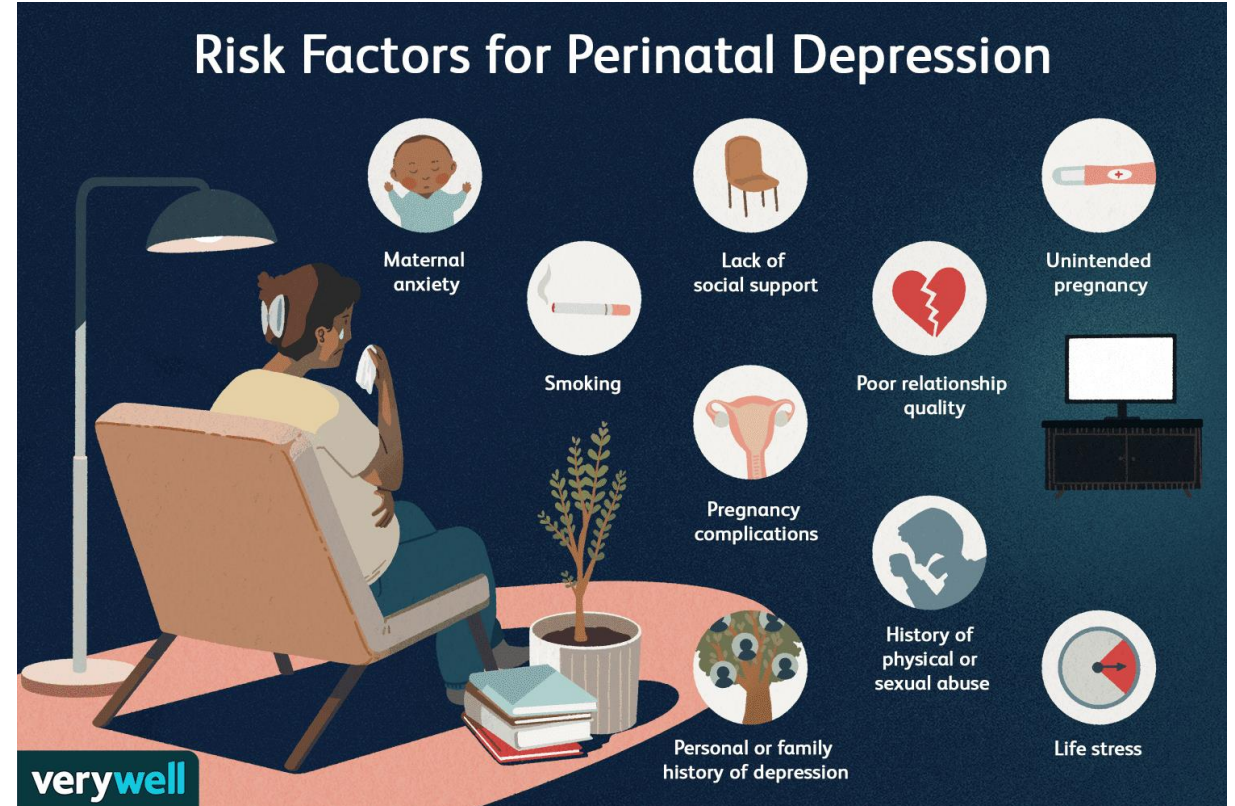
2.2 Prenatal Development: Maternal Factors



Feelings of sadness, worthlessness, guilt, and fatigue interfere with one's daily functioning.

- baby being born premature
- having a low birthweight
- being more irritable
- less active
- less attentive
- and having fewer facial expressions

Depression





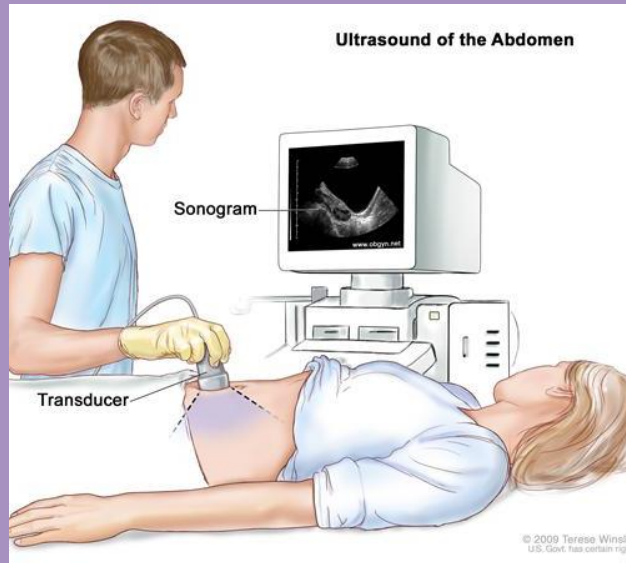
2.2 Prenatal Development: Paternal Impact

- Offspring of men over 40 faces an increased risk of
 - Miscarriages
 - Autism
 - Birth defects
 - Achondroplasia (bone growth disorder)
 - Schizophrenia
- Men are more likely than women to work in occupations where hazardous chemicals.
- Men are also more likely to be a source of second-hand smoke for their developing offspring.



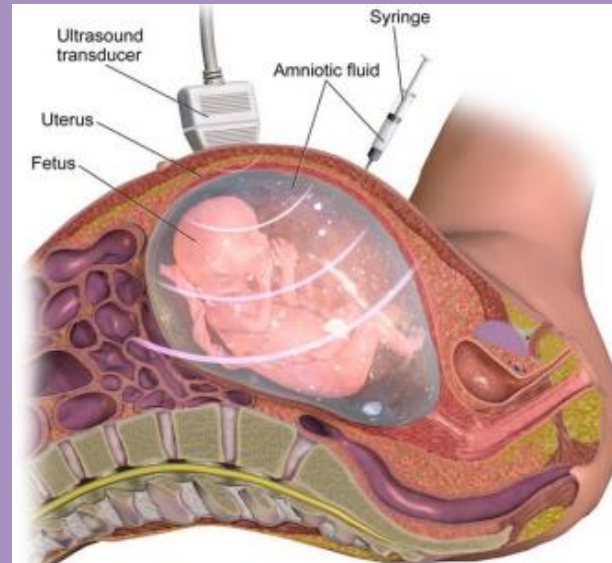


2.2 Prenatal Development: Assessments



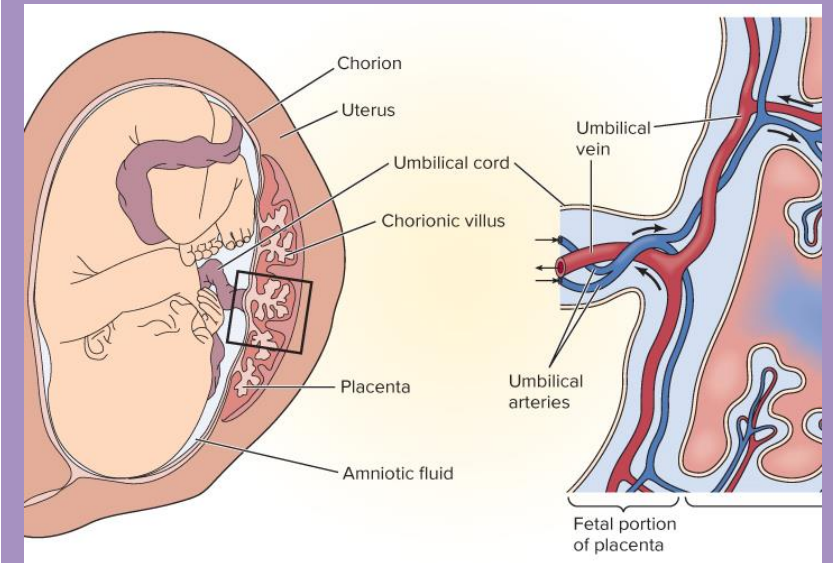
Ultrasound

Test in which sound waves are used to examine the fetus



Amniocentesis

Procedure in which a needle is used to withdraw a small amount of amniotic fluid and cells from the sac surrounding the fetus and later tested



Chorionic Villus Sampling

Procedure in which a small sample of cells is taken from the placenta and tested



2.2 Prenatal Development: Complications

HYPEREMESIS GRAVIDARUM



EXTREME MORNING SICKNESS

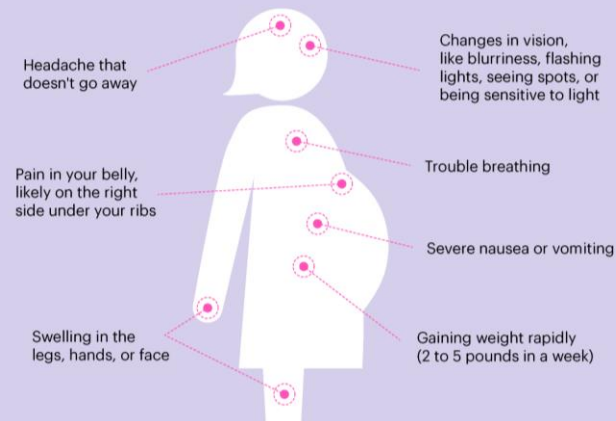
70-80% of all pregnant women experience some form of morning sickness during their pregnancy. **Hyperemesis Gravidarum** (hyper-, meaning "excessive," emesis, meaning "vomiting" and gravidarum, meaning "pregnant woman") is a condition which involves extreme morning sickness, including nausea, vomiting, and weight loss as its major symptoms. It is thought to be a result of high levels of pregnancy hormones, but the exact cause is not known at this time.

Reiter & Walsh, PC
ablawcenters.com

Hyperemesis Gravidarum

Severe nausea, vomiting, weight loss, and possibly dehydration

Preeclampsia is a serious condition that can happen after the 20th week of pregnancy or after giving birth (called postpartum preeclampsia). In addition to causing high blood pressure, it can cause organs, like the kidneys and liver, to not work normally.



Preeclampsia

Sharp rise in blood pressure, a leakage of protein into the urine as a result of kidney problems, and swelling of the hands, feet, and face during the third trimester of pregnancy



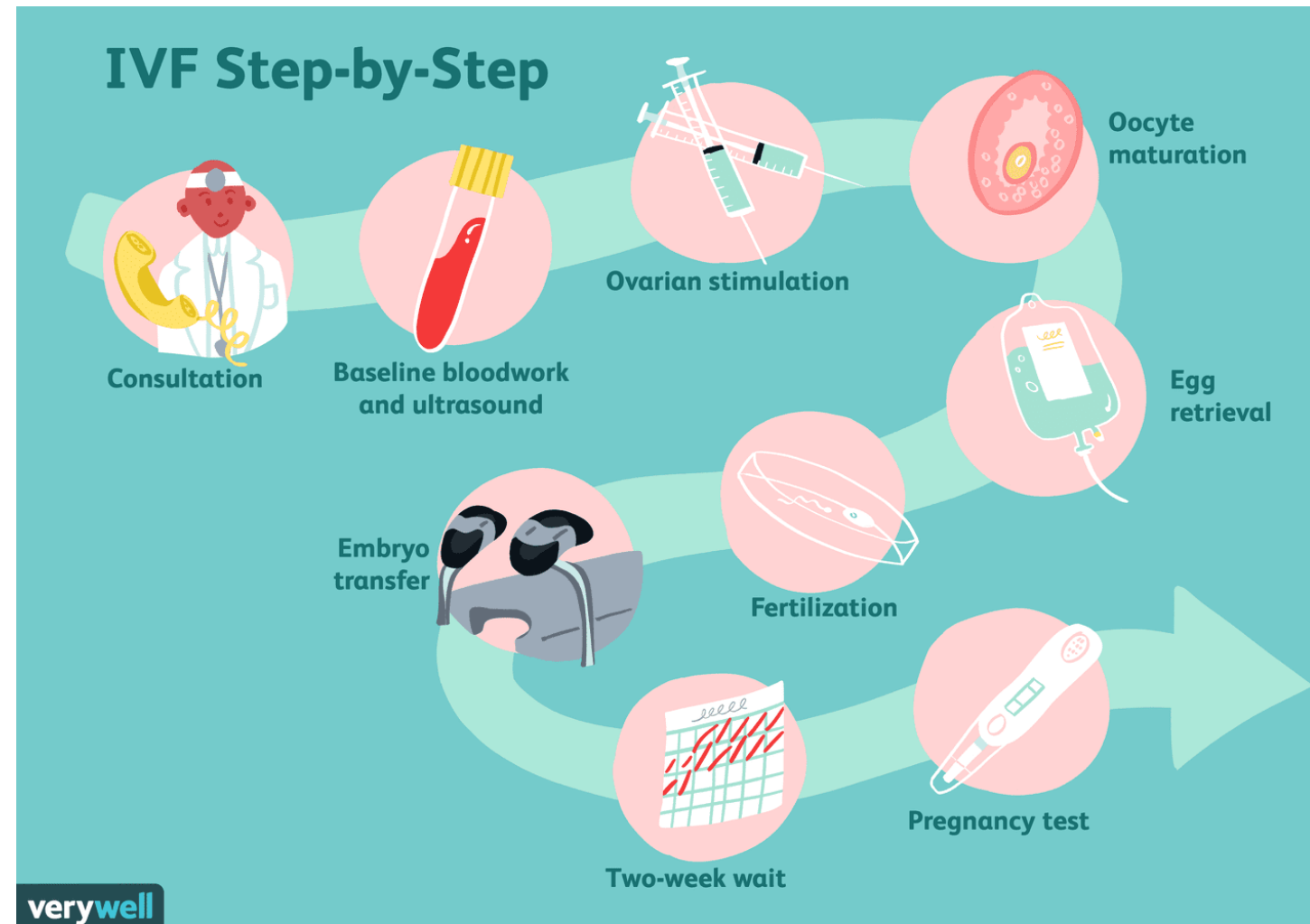
Infertility

When a couple has failed to conceive a child in a year. Male factors include lack of sperm production or low sperm production. Female factors include failure to ovulate and Pelvic Inflammatory Disease.



2.2 Prenatal Development: Complications

- Assisted Reproductive Technology
- Intrauterine Insemination
- In-vitro Fertilization
- Donor Gametes and Embryos
- Surrogacy
- Adoption



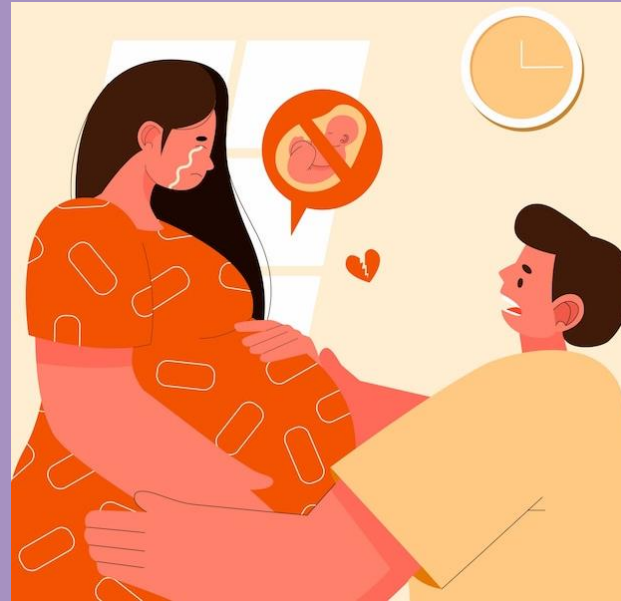


2.2 Prenatal Development: Complications



Ectopic Pregnancy

The zygote becomes attached to the fallopian tube before reaching the uterus. The pregnancy is not viable.



Spontaneous abortion

The body aborts due to chromosomal abnormalities, and this typically happens before the 12th week of pregnancy.

Maternal Mortality

Approximately 1000 women die in childbirth around the world each day.



2.2 Prenatal Development

Pregnancy Loss Resources

Facebook

[Miscarriage & Pregnancy Loss](#)
[Baby Loss Support for Agnostic & Atheist Moms](#)
[Pregnancy and Infant Loss Support Page](#)

Instagram

[After Chloe](#)
[Still a Mama](#)
[I had a Miscarriage](#)
[Baby Loss Awareness](#)
[Miscarriage Stories](#)
[Miscarriage Love and Support](#)
[Grief Unfolding](#)
[A Bed for My Heart](#)
[Still Standing Magazine \(they have articles\)](#)
[Managing Miscarriage](#)
[Miscarriage Journey](#)
[Miscarriage Association](#)
[Grief Support Groups](#)

Videos

<https://www.youtube.com/watch?v=4x2ZrkIQOYU>
 Neil deGrasse Tyson on the Afterlife (starts at 22 minutes)

Therapist

<https://www.psychologytoday.com/us/therapists>
<https://www.zocdoc.com/>
<http://www.seleni.org/therapy>

Articles/Websites

<https://tinybuddha.com/blog/accepting-the-loss-of-a-loved-one-and-finding-peace-again/>
<https://stillstandingmag.com/category/mental-health/>
<https://stillstandingmag.com/2013/12/20/coping-childs-death-dont-believe-god/>
https://www.huffpost.com/entry/atheists-death_b_4134439
<https://www.dignitymemorial.com/support-friends-and-family/grief-library/12-insights-into-grieving-after-the-death-of-your-loved-one>
<https://www.verywellfamily.com/coping-with-miscarriage-and-pregnancy-loss-2371315>
<https://www.tommys.org/baby-loss/neonatal-death-information-and-support>
<https://www.whattoexpect.com/pregnancy/emotional-life/grief-and-loss/losing-a-premature-baby.aspx>
<https://www.marchofdimes.org/complications/dealing-with-grief-after-the-death-of-your-baby.aspx>
<https://www.throughtheheart.org/coping-with-loss/>
<https://www.postpartum.net/get-help/loss-grief-in-pregnancy-postpartum/>
<https://www.thewomens.org.au/health-information/pregnancy-and-birth/pregnancy-problems/when-a-baby-dies>

A photograph of a woman lying in a hospital bed, looking down at a newborn baby. A medical professional wearing blue gloves is holding the baby's head. The scene is dimly lit, with a blue background.

CHILD PSYCHOLOGY

Spring 2024

Marjorine Henríquez-Castillo, PhD

Birth and the Newborn

Chapter 3



3.1 Preparing for Childbirth

Approaches to Childbirth

There are many different approaches to childbirth that influence how expectant parents prepare. The following table describes a few of these:

Table 3.1.1: Approaches to Childbirth (Lifespan Development: A Psychological Perspective (page 59) by Martha Lally and Suzanne Valentine-French is licensed under CC BY-NC-SA 3.0; Lifespan Development - Module 3: Prenatal Development by Lumen Learning references Psyc 200 Lifespan Psychology by Laura Overstreet, licensed under CC BY 4.0)

Method	Description
The Lamaze Method	The emphasis of this method is on teaching the woman to be in control in the process of delivery. It includes learning muscle relaxation, breathing through contractions, having a focal point (usually a picture to look at) during contractions and having a support person who goes through the training process with the mother and serves as a coach during delivery.
The Leboyer Method	This method involves giving birth in a quiet, dimly lit room and allowing the newborn to lie on the mother's stomach with the umbilical cord intact for several minutes while being given a warm bath.
Dick-Read Method / Mongan Method / Hypnobirthing	This method comes from the suggestion that the fear of childbirth increases tension and makes the process of childbearing more painful. It emphasizes the use of relaxation and proper breathing with contractions as well as family support and education.
Bradley Method	"The Bradley Method focuses on preparing the mother for a natural childbirth coached by her partner. They learn techniques to reduce the perception of pain and stay relaxed. The emphasis is on being prepared for an unassisted vaginal birth without medication." ²
Alexander Technique	This is a technique that can be used during childbirth that involves training to stop habitual reactions to pain, such as tensing muscles and increase conscious awareness and control over posture and movement. This involves being able to move freely and stay upright during labor and using body positioning that is beneficial to the labor process. ³
Waterbirth	Involves immersion in warm water. Proponents believe this method is safe and provides many benefits for both mother and infant, including pain relief and a less traumatic birth experience for the baby. However, critics argue that the procedure introduces unnecessary risks to the infant such as infection and water inhalation. ⁴
Lotus Birth	Or umbilical cord nonseverance – UCNS, is the practice of leaving the umbilical cord uncut after childbirth so that the baby is left attached to the placenta until the cord naturally separates at the umbilicus. This usually occurs within 3–10 days after birth. The practice is performed mainly for spiritual purposes of the parents, including for the perceived spiritual connection between placenta and newborn. ⁵
Silent Birth	Sometimes known as quiet birth, is a birthing procedure advised by L. Ron Hubbard and advocated by Scientologists in which "everyone attending the birth should refrain from spoken words as much as possible." ⁶
Medicated Childbirth	Health care providers can provide pain relief during labor with different types of medication, including epidurals, spinal blocks, combined spinal-epidurals, and systemic and local analgesia. There are benefits and side effects of each. ⁷





3.1 Preparing for Childbirth

- Locations
 - Hospital
 - Homes
 - Clinic
 - Birthing Center
 - Physician offices
- Professional
 - Obstetricians
 - Midwives
 - Doulas

Doula versus Midwife

Optional Certification

- ✓ Provides physical & emotional maternal support
- ✓ Supports before, during and after birth
- ✗ Cannot deliver babies
- ✗ Not a substitute for midwife or doctor



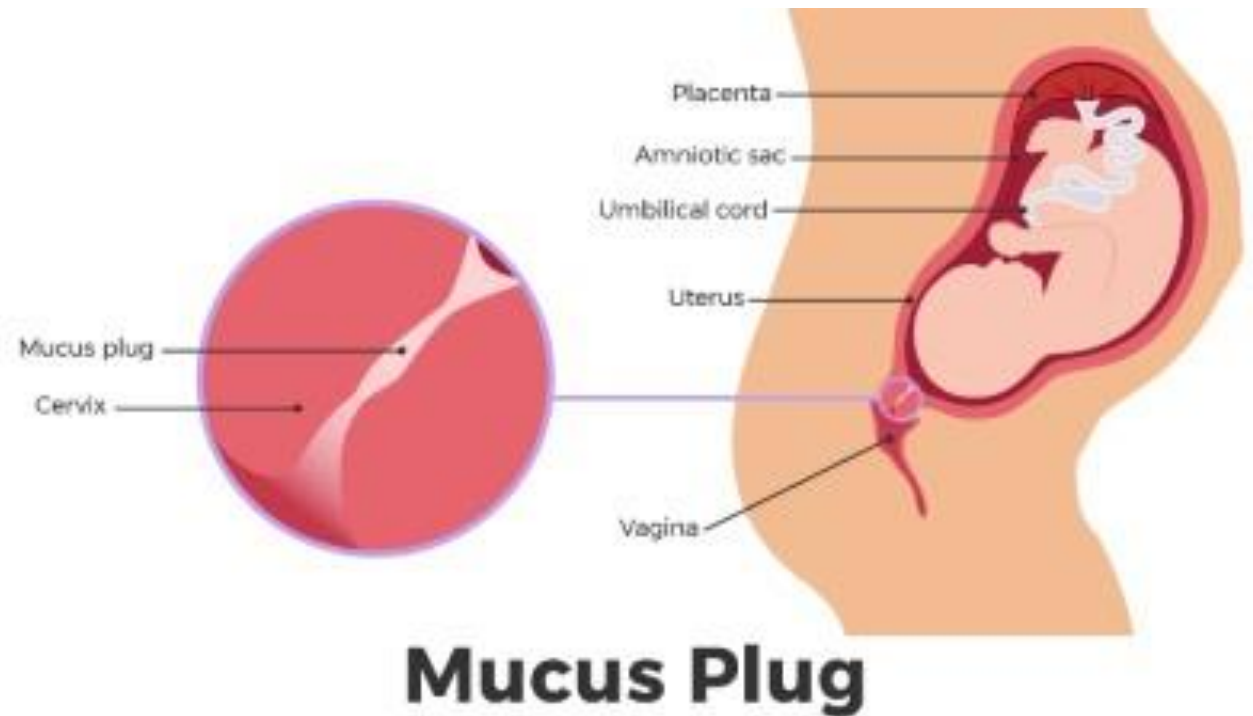
Trained Medical Professional

- ✓ Can prescribe medicine
- ✓ Provides care during labor and delivery
- ✓ Can deliver babies
- ✗ Cannot manage high risk pregnancies or perform surgeries



3.2 Childbirth

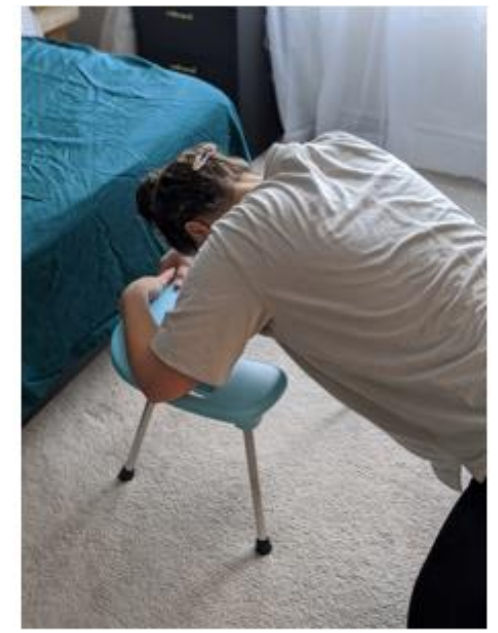
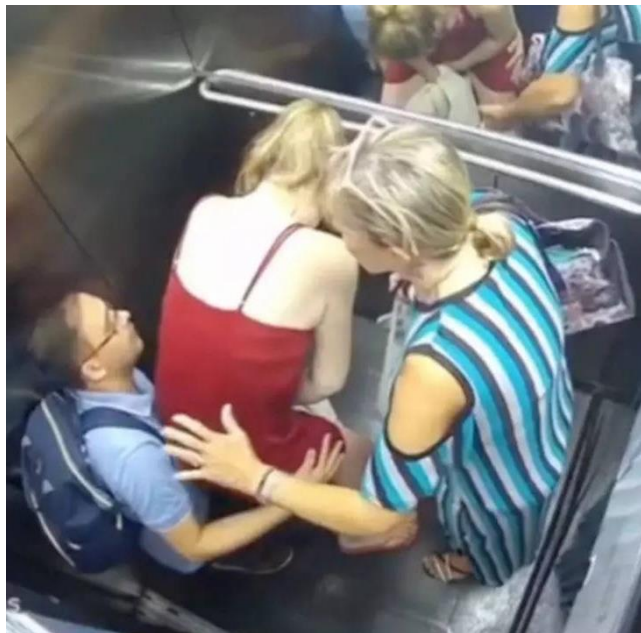
- A common sign that labor is beginning is the so-called “bloody show.” During pregnancy, a plug of mucus accumulates in the cervical canal, blocking the entrance to the uterus. Approximately 1–2 days prior to the onset of true labor, this plug loosens and is expelled, along with a small amount of blood.
- Contractions
- Three Stages of Vaginal Delivery
- Medical Intervention
 - Induced labor
 - C-Section
 - Vaginal Birth After Cesarean (VBAC)





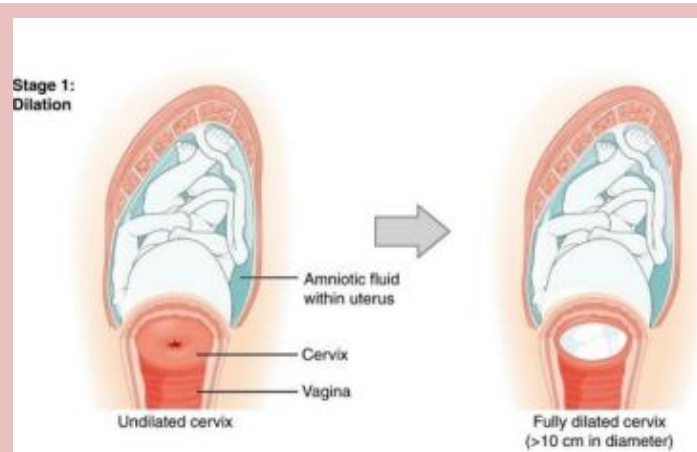
3.2 Childbirth

- Women can also use alternate positions
 - On bed
 - Standing
 - Squatting
 - Being on hands and knees
 - Using a birthing stool



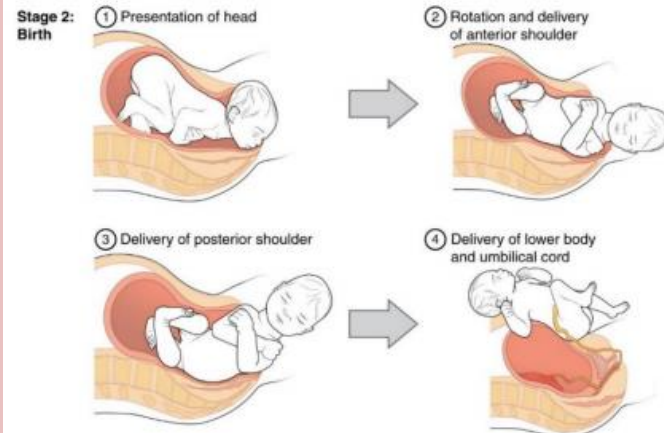


3.2 Childbirth



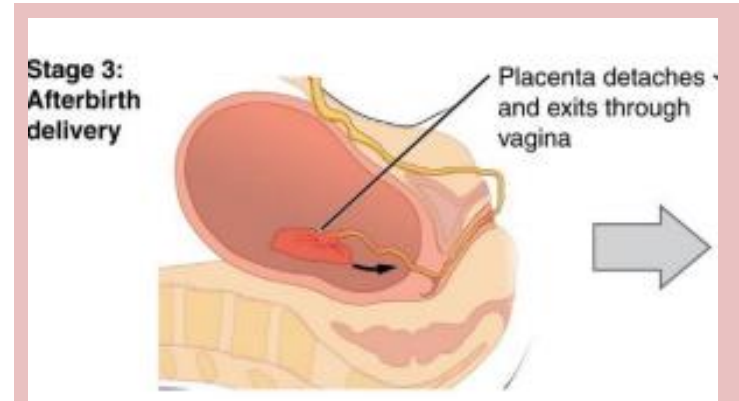
The First Stage

- Contractions increase in duration and frequency
- Amniotic sac or water break
- Dilate 10cm (4 inches)



Second Stage

- Passage of baby through birth canal
- Normally head comes out first
- Umbilical cord is clamped and cut



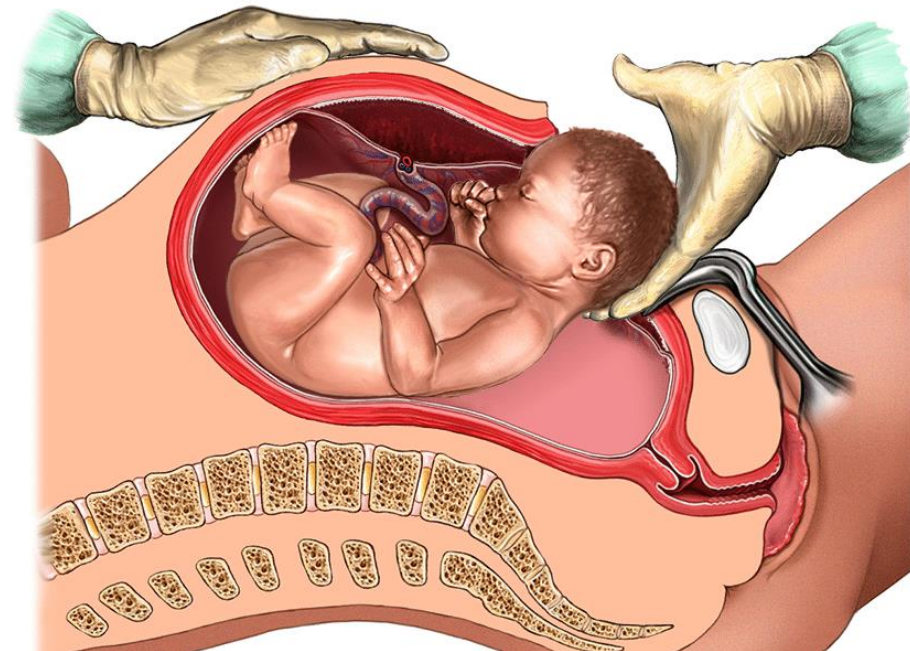
Third Stage

- Placenta is delivered



3.2 Childbirth: Additional Considerations

- Epidural: a regional analgesic that can be used during labor and alleviates most pain in the lower body.
- Induced labor: medication (Pitocin) given to kickstart the labor process (when needed).
- C-Section: surgery to deliver the baby by being removed through the mother's abdomen.
- Vaginal Birth After Cesarean (VBAC)





3.2 Childbirth: Baby is here!





3.3 The Newborn

- Conducted 1 and 5 minutes after birth
- 5 or less is concern
- Other tests for congenital and genetic disorders

	Sign	0 points	1 point	2 points
A	Appearance (skin color)	Blue-gray, pale all over	Normal, except for extremities	Normal over entire body
P	Pulse	Absent	Below 100 bpm	Above 100 bpm
G	Grimace (reflex irritability)	No response	Grimace	Sneezes, coughs, pulls away
A	Activity (muscle tone)	Absent	Arms and legs flexed	Active movement
R	Respiration	Absent	Slow, irregular	Good, crying



APGAR SCORE

SCORE	APPEARANCE	PULSE	GRIMACE	ACTIVITY	RESPIRATION
0	 Blue all over	 No pulse	 No response to stimulation	 No movement	 No respiration
1	 Blue extremities	 <100 beats/min	 Grimace on stimulation	 Some flexion	 Weak, irregular, slow
2	 No blue colouration	 >100 beats/min	 Cry on stimulation	 Flexed limbs that resist extension	 Strong cry

≥7 **NORMAL** 4-6 **LOW** ≤3 **CRITICAL**

More FREE resources at eventmedicinegroup.org