



National Coordinating Center  
for the Regional Genetics Networks

**The National Coordinating Center for the  
Regional Genetics Networks**

# Glossary of Prenatal Genetics Terms

**English – Vietnamese**

**2022 Edition**

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In collaboration with:  
**The Cross Cultural Health Care  
Program (CCHCP)**

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## Acknowledgments

### Mission of the NCC

The National Coordinating Center for the Regional Genetics Networks (NCC) has been funded by the Health Resources and Services Administration (HRSA) since 2004. Our mission is to improve access to genetics for underserved populations. This mission is accomplished through different programs, many of which are educational tools and resources for non-genetics professionals. Learn more at <https://nccrcg.org>.

### NCC Funding Acknowledgment

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under Cooperative Agreement #UH9MC30770 from 6/2020-5/2024 for \$800,000 per award year. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

### Additional Acknowledgments

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Cindy Roat is an international consultant in language access in health care and patient navigation. She provides training and consulting for health care interpreters, providers, administrators, and patient navigators. Cindy compiled and edited this glossary for the NCC.

### The Cross Cultural Health Care Program

The mission of The Cross Cultural Health Care Program (CCHCP) is to serve as a bridge between communities and health care institutions to advance access to quality health care that is culturally and linguistically appropriate. CCHCP provides resources, such as bilingual medical glossaries, as well as medical interpreter, patient navigator, and cultural competence training for individuals and institutions with the goal of systems change. Learn more at: <https://xculture.org>

CCHCP is supporting and coordinating the translation process of this glossary and is providing the glossary free of charge in its online store: <https://xculture.org/store/>

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## Preface

The seven Regional Genetics Networks (RGNs), the National Genetics Education and Family Support Center (Family Center), and the National Coordinating Center for the Regional Genetics Networks (NCC) mission is to improve access to quality genetic services for medically underserved populations. This bilingual glossary of terms related to Prenatal Genetics is provided to help enable access to prenatal medical services to limited English proficiency populations.

## How to Use the Glossary

This glossary is organized alphabetically in English. The first column shows the term in English. The second column has the definition of the term in English. The third column has the translation of the term.

At the end of the translations of the prenatal genetics terms are:

- A glossary of translations for family relationships terms. It is very important for genetic counselors to know if a relative is a blood relative or a relative by marriage.
- Examples of analogies used in genetics. Genetic counselors often use analogies to explain complex ideas in genetics. An analogy explains a new concept by comparing it to something more common.

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## Glossary of Terms

### English – Vietnamese

(n) – noun      (v) – verb      (adj) – adjective      (adv) – adverb

Term	Definition	Translation
<b>Abnormal (adj)</b>	Different from what is considered normal, average, or expected, e.g., a gene sequence that is different than that found in most people.	bất thường
<b>Abortion (n)</b>	The deliberate ending of a pregnancy by the removal of an embryo or fetus from the womb.  Technically, this is called an “induced abortion” in order to distinguish it from a “spontaneous abortion” which is also called a miscarriage or stillbirth. Also called a “termination of pregnancy” or just “termination.”	phá thai
<b>Adoption (n)</b>	The process of legally taking someone else’s child into your family to raise as your own child.	nhận con nuôi
<b>Amniocentesis (n)</b>	A procedure by which a sample of amniotic fluid is withdrawn from the amniotic sac. This is usually done by inserting a long needle through the abdominal and uterine walls with the guidance of ultrasound.	chọc ối / tiêm rút nước ối
<b>Amniotic fluid (n)</b>	The liquid that surrounds a fetus as it develops in the uterus. This liquid contains skin cells that have sloughed off the fetus as well as other fetal cells.	nước ối
<b>Anencephaly (n)</b>	A neural tube defect that results in insufficient brain growth in a fetus. Babies with anencephaly usually die soon after birth or are stillborn.	dị tật khuyết não
<b>Benign (adj)</b>	Something that does not threaten health or life. May refer to a type of change to the DNA that does not create health consequences.  E.g., when discussing cancer, “benign” means “not cancerous.”	lành tính
<b>Birth canal (n)</b>	The passageway from the uterus through the cervix, the vagina, and the vulva through which a baby passes during the birth process.	sản đạo

Glossary of Prenatal Genetics Terms - Vietnamese

Term	Definition	Translation
<b>Birth defect (n)</b>	A problem or physical difference with how the body works that is present at birth. Birth defects can be caused by genetic abnormalities, environmental influences, random chance, or by circumstances related to the birth process. Also called “congenital malformation” or “congenital anomaly.”	khuyết tật bẩm sinh
<b>Blood test (n)</b>	A test in which blood is drawn (usually from the patient’s arm) and sent to a laboratory for analysis.  In genetics, blood tests may provide cells for genetic sequencing, or blood samples may be used to assess things like protein or hormone levels.	thử máu
<b>Buccal swab (n)</b>	A way to collect DNA from the cells on the inside of a person's cheek.	lấy mẫu tế bào má
<b>Carrier (n)</b>	A person who has a genetic mutation in one of their two copies of a particular gene that is associated with a genetic condition. The other copy of the gene does not have a mutation, so that person usually does not have any medical issues related to the gene change.	người mang yếu tố di truyền biến đổi
<b>Cell (n)</b>	The smallest (microscopic) functional unit of living organisms. All living things are composed of one or more cells. Within each cell are the structures needed for the cell to process energy, dispose of waste, reproduce, and perform specialized functions.	tế bào
<b>Cervix (n)</b>	The narrow lower part of the uterus than connects to the vagina.	cổ tử cung
<b>Chorionic Villus Sampling (CVS) (n)</b>	A procedure during pregnancy in which a sample of cells from the placenta is removed to check for possible genetic abnormalities.	lấy mẫu sinh thiết gai nhau (CVS)
<b>Chromosome (n)</b>	Thread-like structures located inside the nucleus of cells. In humans, there are 23 pairs of chromosomes, for a total of 46 chromosomes. Each chromosome is made of a long strand of DNA, which carries genetic information.	nhiễm sắc thể
<b>Chromosome test / Karyotype (n)</b>	A test that looks at the number and types of chromosomes in a cell.	thử nghiệm nhiễm sắc thể / nhiễm sắc thể đồ
<b>Cleft lip (n)</b>	A congenital malformation that occurs when the upper lip does not form properly, causing an opening in the upper lip that can extend to the nose. This can occur together with a cleft palate or on its own.	Sứt môi



Term	Definition	Translation
<b>Cleft palate (n)</b>	A congenital malformation where the roof of the mouth (palate) does not form properly, resulting in an opening into the nasal cavity. This can occur together with a cleft lip or on its own.	Khe hở hàm ếch
<b>Clinically significant (adj)</b>	If a test result is “clinically significant,” the result indicates a medical problem that can impact a person’s life.	quan trọng về mặt lâm sàng
<b>Condition (e.g., “genetic condition”) (n)</b>	A long-term medical health issue.	bệnh trạng (thí dụ. “bệnh trạng di truyền”)
<b>Consanguinity (n)</b>	When parents are blood relatives to each other.	quan hệ huyết thống
<b>Cystic fibrosis (n)</b>	A progressive genetic condition that affects the exocrine glands (the glands that make sweat and digestive juices) and causes the production of thick, sticky mucus. This mucus blocks the pancreatic duct, the intestines, and the lungs, leading to persistent respiratory infections.	bệnh xơ nang
<b>Deleterious mutation/ Disease-causing mutation (n)</b>	A change in a person’s DNA that may cause a medical condition.	biến dị nguy hiểm/ biến dị gây bệnh
<b>Deletion (n)</b>	Having a section of genetic information (DNA) missing.	mất đoạn
<b>Diagnostic test (n)</b>	A medical test that determines whether a patient has a particular medical problem. Diagnostic tests are often used when providers have a specific reason to believe that the medical problem may be present. Compare this to screening tests, which may be given routinely, even if the provider has no reason to believe the patient has a specific problem. Screening tests often only report whether a patient is at <u>an increased risk</u> for the medical problem in question, whereas diagnostic tests report whether the problem is actually present.	thử nghiệm chẩn đoán

Term	Definition	Translation
<b>DNA (Deoxyribonucleic Acid) (n)</b>	<p>The material that carries the genetic information of a cell. It provides the instructions used in the development, functioning and reproduction of the organism of which it is a part.</p> <p>If you could stretch out the DNA of a chromosome and look at it through a microscope, it would look like a long ladder that is twisted into a spiral. The 'sides' of the ladder are made up of alternating phosphate and sugar groups. The 'rungs' are various combinations of two nitrogen bases: Adenine-Thymine and Cytosine-Guanine.</p> <p>Individual sections of DNA that code for specific traits/functions are called genes.</p>	DNA (deoxyribonucleic acid)
<b>DNA marker (also called a "Genetic marker") (n)</b>	A readily recognizable genetic trait, gene, or DNA segment.	dấu DNA (còn gọi là "dấu di truyền")
<b>DNA mutation (n)</b>	<p>A change in the typical sequence of the chemicals that make up the DNA, like the change in the order of letters in a word.</p> <p>Mutations or variants are often compared to misspelled words because chemicals that make up the DNA sequence are not in the expected order.</p>	Đột biến DNA
<b>DNA sequence (n)</b>	The exact arrangement of the chemicals that make up a section of DNA.	Trình tự DNA
<b>DNA sequencing (n)</b>	The laboratory technique used to determine the exact arrangement of the chemicals that make up a section of DNA. This is one type of genetic testing.	Giải trình tự DNA
<b>Dominant (adj)</b>	A genetic trait in which one copy of the gene is sufficient for a trait to be expressed. In a dominant genetic condition, if one copy of the gene has a mutation, the personal will be affected with the condition.	trội
<b>Donor egg or sperm (n)</b>	An egg (singular) or sperm (plural) donated by one person to be joined under laboratory conditions and implanted in a woman's uterus. The donor egg or sperm may come from the woman or man who will raise any resulting child, or they may come from a third party.	trứng hoặc tinh trùng hiến tặng

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Term	Definition	Translation
<b>Down syndrome (Trisomy 21) (n)</b>	A genetic condition in which there are three copies of chromosome number 21 instead of two.  Down syndrome causes a distinct facial appearance, intellectual disability, developmental delays, and may be associated with thyroid or heart disease.	hội chứng Down (ba nhiễm sắc thể 21)
<b>Duplication (n)</b>	Having an extra section of genetic information (DNA). A duplication occurs when part of a chromosome is copied abnormally, resulting in extra genetic material.	tăng đoạn nhiễm sắc thể
<b>Edwards syndrome (Trisomy 18) (n)</b>	A genetic condition in which there are three copies of chromosome number 18 instead of two.  Trisomy 18 is a very severe condition that causes problems with the brain, the heart, the kidneys, and the digestive tract. Most children affected by trisomy 18 die before or soon after birth.	hội chứng Edwards (ba nhiễm sắc thể 18)
<b>Egg (n)</b>	The reproductive cells of a woman. When fertilized by sperm, the egg will grow into an embryo. Also called an "ovum," plural "ova."	trứng
<b>Embryo (n)</b>	An unborn mammal, between conception and 8 weeks of gestation.	phôi thai
<b>Fallopian tube (n)</b>	The tube that connects an ovary to the uterus.	ống dẫn trứng
<b>False negative (n)</b>	A test result that finds no evidence of a condition when the condition actually does exist. For example, a false negative on a pregnancy test finds that the woman is not pregnant when, in fact, she is pregnant.	âm tính giả
<b>False positive (n)</b>	A test result that finds evidence of a condition when the condition does NOT actually exist. For example, a false positive on a pregnancy test finds that the woman is pregnant when, in fact, she is not.	dương tính giả
<b>Familial (adj)</b>	Belonging to a family, e.g., a familial trait is a trait that is shared among family members and may be due to genetic or environmental factors or both.	thuộc về gia đình
<b>Family history (n)</b>	The medical history of the members of a biological family.	quá trình y tế gia đình
<b>Fertilization (n)</b>	The joining of an egg and sperm to create the first cell that will develop into an embryo, then fetus, then baby.	thụ tinh
<b>Fetal surgery (n)</b>	Surgery conducted on a fetus while it is still in the uterus.	giải phẫu bào thai

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Term	Definition	Translation
<b>Fetus (n)</b>	An unborn mammal, between 8 weeks of gestation to birth.	bào thai / Thai nhi
<b>First trimester screening (n)</b>	A blood test and ultrasound conducted at 10-13 weeks of pregnancy to screen for Down syndrome (trisomy 21), Edwards syndrome (trisomy 18), and certain other fetal problems.	khám sàng lọc tam cá nguyệt thứ nhất
<b>Flip a coin (v)</b>	A random decision-making tool used in the U.S. While a coin is flipped into the air and caught, a person predicts whether it will fall with the “heads” side up or the “tails” side up. If the coin falls as predicted, the person “wins.” This expression is often used as a metaphor for any outcome that is random and has two possible outcomes, and to describe a situation in which each outcome is as likely as the other.	chọn sắp ngửa
<b>Fragile X syndrome (n)</b>	A genetic condition that affects the FMR1 gene so that it does not function properly. This syndrome causes intellectual disability, behavioral and learning challenges and various physical characteristics that are not life threatening.	hội chứng nhiễm sắc thể fragile X
<b>Fragment (n)</b>	A small piece; an incomplete part of a whole.	mảnh
<b>Gene (n)</b>	A specific sequence of DNA that codes for one or many functions within the cell and body.	gen
<b>General population (n)</b>	<p>“Most people.”</p> <p>For example, if you have the same risk of getting cancer as the general population, that means that you have the same chance of getting cancer as everyone else. This is in contrast to a “high risk population” who has a greater chance of getting cancer than everyone else.</p>	dân số chung
<b>Generation (n)</b>	<p>The people who constitute a single step in a line of descent from an ancestor; a group of people born and living more or less at the same time.</p> <p>Example: You, your brothers, and sisters, all your spouses and your cousins are in the same generation. Your parents, your aunts, and uncles and all their spouses form a previous generation. Your grandparents, their siblings, and spouses from an even earlier generation. Your children and nieces and nephews form a later generation.</p>	thế hệ

Term	Definition	Translation
<b>Genetics (adj)</b>	The science of how an organism's genes interact with the environment to produce certain traits.	di truyền học
<b>Genetic counseling (n)</b>	A discussion with a medical professional with expertise in genetics about the basic concepts of genetics, genetic conditions, the chances of being affected by a genetic condition or having a child with a genetic condition, and genetic testing and treatment.	tư vấn về di truyền
<b>Genetic counseling intern (n)</b>	A genetic counseling student who has not yet completed his/her academic studies and is now practicing under the supervision of a more experienced counselor in preparation for providing genetic counseling services independently after obtaining his/her graduate degree.	sinh viên thực tập tư vấn về di truyền
<b>Genetic counselor (n)</b>	A healthcare professional with a specialized graduate degree who works with people who have concerns about genetic conditions in their family. Genetic counselors provide information about genetic conditions, help patients understand their chances of being affected by a genetic condition or having a child with a genetic condition, and help them make informed decisions about testing and treatment. Genetic counselors also provide emotional support to patients and families.	cố vấn di truyền
<b>Genetic discrimination (n)</b>	Occurs when people are treated differently by their employer or insurance company due to their genetic makeup. There are federal and state laws that help protect against genetic discrimination.	kỳ thị vì lý do di truyền
<b>Genetic factors (n)</b>	Specific aspects of a person's genetic make-up that influence that person's health and development.	các yếu tố di truyền
<b>Genetic information (n)</b>	The instructions encoded in DNA, which tells every cell in a body how to grow, what to do and how to reproduce.	thông tin di truyền
<b>Genetic material (n)</b>	All the parts of a cell that carry genetic information. Genetic material could include genes, parts of genes, a group of genes, a DNA molecule, a fragment of DNA, a group of DNA molecules, or the entire set of genetic instructions.	vật liệu di truyền
<b>Genetic predisposition (n)</b>	An increased chance of a person developing a certain trait or disease based on that person's particular genetic makeup.	bẩm chất di truyền
<b>Genetic test (n)</b>	A laboratory test designed to determine if a person has a change to their DNA.	thử nghiệm di truyền

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Term	Definition	Translation
<b>Genetic trait (n)</b>	A characteristic within a family that is passed down from parent to child through their DNA.	nét di truyền
<b>Genetic variant (n)</b>	A change from the typical DNA sequences. A genetic variant can be benign, deleterious or of uncertain significance. Also called “mutation,” although “genetic variant” is becoming the more common usage.	biến dị di truyền
<b>Geneticist (n)</b>	A doctor or scientist who studies genetics.	nhà di truyền học
<b>Hereditary (adj)</b>	Passed down from parent to child.	di truyền thừa kế
<b>Hereditary material (n)</b>	Genetic material that is passed down from parent to child.	vật liệu di truyền thừa kế
<b>In Vitro Fertilization (IVF) (n)</b>	<p>The fertilization of an egg by a sperm outside of a woman’s body.</p> <p>The process involves extracting eggs from a woman’s ovaries, collecting sperm from a man, and combining a sperm and egg in a laboratory dish. The resulting fertilized egg is usually then implanted in a woman’s uterus so that it can develop into a baby.</p>	thụ tinh trong ống nghiệm (IVF)
<b>Infertility (n)</b>	The inability to have children.	hiếm muộn / vô sinh
<b>Informed consent (n)</b>	The process of agreeing to a procedure or course of treatment after understanding what the procedure/treatment entails, the potential risks and benefits associated with it, and the other options available.	<p>Ưng thuận có hiểu biết</p> <p>chấp thuận có hiểu biết</p> <p>sự đồng ý có xác nhận thông tin</p>
<b>Inheritance pattern (n)</b>	The manner in which a particular genetic trait or disorder is passed from a parent to a child, e.g., autosomal dominant or recessive, X-linked dominant or recessive, or multifactorial.	mẫu hình di truyền thừa kế
<b>Inherited (adj)</b>	Passed down from parent to child.	thừa kế
<b>Insertion (n)</b>	Having an extra segment of DNA added in at a place where it is not usually found.	xen đoạn
<b>Intellectual disability (n)</b>	A condition, varying in severity, in which a person has significant impairments in mental abilities, social skills, and core functions of daily living compared to others their age.	khuyết tật trí tuệ

Term	Definition	Translation
<b>Klinefelter's syndrome (47, XXY) (n)</b>	A genetic condition in which a male has two copies of the X chromosome and one copy of the Y chromosome; compared to the typical chromosome makeup where a male has one X chromosome and one Y chromosome.	hội chứng Klinefelter (47, XXY)
<b>Marker chromosome (n)</b>	A small extra fragment of a chromosome detected when doing a chromosome test like a karyotype. Marker chromosomes can sometimes cause health or development problems, depending on how much and what genetic material is contained within.	mảnh nhiễm sắc thể
<b>Maternal Serum Screening (MSS or maternal serum alpha-fetoprotein test) (n)</b>	A blood test available to pregnant women that identifies elevated risks for Down syndrome, trisomy 18 and neural tube defects. Usually conducted at in the second trimester, between 14-20 weeks.	xét nghiệm sàng lọc huyết thanh người mẹ (MSS hay thử nghiệm mức alphafetoprotein trong huyết thanh người mẹ)
<b>Microarray (n)</b>	A high-resolution chromosome test that provides more information than a basic karyotype. A microarray measures the amount of chromosome material in a sample and can detect both large changes (e.g., if there is an extra or missing chromosome) as well as small changes (e.g., if there are very small pieces of chromosomes that are extra or missing). It does not look at the visual appearance or arrangement of chromosomes but measures the amount of genetic material.	kỹ thuật phân tích microarray
<b>Miscarriage (n)</b>	The spontaneous (not intentional) loss of a pregnancy. See "abortion." Also called pregnancy loss.	sảy thai
<b>Molecule (n)</b>	The smallest unit of a chemical compound that still has the properties of that compound. For example, a molecule of water is made up of two hydrogen atoms and one oxygen atom. Separately, they are just atoms, but when bonded together, they make a water molecule.	phân tử
<b>Mosaicism (n)</b>	A condition in which some, but not all, cells in a sample show a genetic difference.	thể khảm
<b>Multifactorial (adj)</b>	Due to a combination of genetic and non-genetic (environmental, hormonal, etc.) risk factors that act together to determine risk.	Đa yếu tố
<b>Mutation (n)</b>	A change in a gene, usually deleterious. See "genetic variant."  In Spanish, the word is sometimes confused with "mutilation."	biến dị / đột biến

Term	Definition	Translation
<b>Non-Invasive Prenatal Testing (NIPT) (n)</b>	A blood test available to pregnant women that identifies elevated risk for certain genetic conditions in the fetus. This test focuses on fragments of DNA from placental cells – which carry the fetus’ genetic make-up – that are found in the mother’s bloodstream.	xét nghiệm tiền sản không xâm lấn (NIPT)
<b>Nuchal thickening (n)</b>	There is a pocket of fluid at the back of the neck of a fetus which can be measured in an ultrasound between 10-14 weeks gestation (called the nuchal translucency). If there is a large amount of fluid at this point, or if later in pregnancy the neck skin itself appears to be thicker, this is associated with a higher risk of chromosome problems and other rare genetic conditions.	da gáy dày lên
<b>Open Neural Tube Defect (ONTD) (n)</b>	A birth defect of the spine, spinal cord, or brain that results from a hole in the spinal column not closing up when appropriate during early fetal development. The two most common types of ONTDs are spina bifida and anencephaly.	Khuyết tật ống thần kinh mở/ hở
<b>Ova (n)</b>	See “egg.”	trứng
<b>Ovary (n)</b>	The organ in a woman that stores and releases eggs. There are normally two.	buồng trứng
<b>Penetrance (n)</b>	The probability that a specific genetic trait will be expressed if a person carries a mutation. “Complete penetrance” means that everyone who carries a particular gene mutation will show the trait related to that altered gene. “Incomplete penetrance” means that only some of the people who have the altered gene will actually show the related trait.	xác suất thâm nhập
<b>Placenta (n)</b>	The organ that develops together with an embryo in a pregnant woman’s uterus to nourish the embryo through the umbilical cord.	nhau thai
<b>Presymptomatic (adj)</b>	Before symptoms appear.	tiền triệu chứng
<b>Prognosis (n)</b>	The most likely outcome of a disease process.	tiền lượng
<b>Protein (n)</b>	A molecule made up of chains of amino acids. Proteins do most of the work in cells and are required for the structure, function, and regulation of the body's tissues and organs. Genes determine how specific amino acids are put together to form a specific protein.	chất đạm / protein
<b>Random (adj)</b>	Happening in an unpredictable way.	ngẫu nhiên



Term	Definition	Translation
<b>Recessive (adj)</b>	A genetic trait in which both copies of a gene need to be altered for the trait to be expressed; recessive traits are typically inherited from both parents, each one contributing one copy of the gene in question.  In prenatal genetics, recessive inheritance refers to conditions in which both copies of a particular gene pair need to be altered to develop a specific disease or condition.	chìm lặn
<b>Red flag (n)</b>	A warning sign or a clue.	dấu hiệu cảnh giác
<b>Replicate (v)</b>	To copy.	sao chép
<b>Reproductive history (n)</b>	The experiences a woman has had related to pregnancy and childbirth. A reproductive history usually includes age at the onset of menses (have a monthly period), age at the beginning of sexual intercourse, age at first conception, number of pregnancies, number of live births, number of miscarriages, number of abortions.	lịch sử sinh đẻ
<b>Ring chromosome (n)</b>	An abnormal formation of a chromosome in which the ends of two of the chromosome's arms have linked together to form a ring.	nhiễm sắc thể vòng
<b>Risk (n)</b>	The chance that something will happen; in the case of prenatal genetics, the chance that the child will have a genetic condition.	rủi ro
<b>At risk (adj)</b>	Has some possibility of having a genetic condition.	có rủi ro (
<b>At average risk (adj)</b>	Has the same possibility of having a genetic condition as the general population.	có rủi ro trung bình
<b>At high risk (adj)</b>	Has a greater possibility of having a genetic condition than the general population.	có nhiều rủi ro
<b>At higher risk than "X" (adj)</b>	Has a greater possibility of having a genetic condition than "X."	có nhiều rủi ro hơn "X"
<b>Risk factor (n)</b>	A circumstance that increases the risk of having a genetic condition.	yếu tố rủi ro
<b>Runs in the family (e.g., sickle cell disease runs in the family) (v)</b>	When a certain condition or trait seems to appear in many members of a single family	di truyền trong gia đình (chẳng hạn như bệnh hồng huyết cầu hình liềm di truyền trong gia đình)

Term	Definition	Translation
<b>Screen (v)</b>	To assess a person's risk for a particular health problem, even if the person has no symptoms to suggest that they have the problem.	sàng lọc, tầm soát
<b>Screening test (n)</b>	<p>A test that looks to detect a particular health problem, even if a patient has no symptoms of that particular condition.</p> <p>Prenatal screening tests aren't looking for genetic changes. They are designed to look at hormones, chemicals, other things that indicate a fetus might have a higher risk of a certain condition. They are not DNA results, do not give a definite answer about whether someone is affected, and do not provide a firm diagnosis. They are usually reported as a risk number (e.g., 1 in ____ chance), and if this number is above a certain cut-off point, the result will be categorized as 'screen positive' or 'screen negative'.</p>	xét nghiệm sàng lọc
<b>Semen (n)</b>	A liquid produced by the testes, the prostate gland, the seminal vesicle, and the bulbourethral gland that carries, nourishes and protects sperm cells on their way to fertilizing an egg. Also called seminal fluid.	tinh dịch
<b>Seminal fluid (n)</b>	See "semen."	tinh dịch
<b>Sickle cell disease (n)</b>	A genetic disorder caused by a mutation in a gene that helps to make hemoglobin, an important part of red blood cells. In sickle cell disease, red blood cells can become sickle-shaped (instead of round as they should be). These affected blood cells do not function properly, and die early, leaving a shortage of red blood cells, and can block blood flow causing pain.	bệnh hồng cầu hình liềm
<b>Sperm (n)</b>	The reproductive cells of the man. When sperm fertilize a woman's egg, a baby develops.	tinh trùng
<b>Sperm donation (n)</b>	The process through which a man allows his sperm to be collected and used to fertilize the eggs of a woman who is not his sexual partner.	hiến tặng tinh trùng
<b>Spina bifida (n)</b>	A congenital defect of the spine in which part of the spinal cord is exposed through an opening in the bone structure. This may result in nerve damage and some degree of paralysis in the legs.	khuyết tật nứt đốt sống
<b>Statistically significant (adj)</b>	A measurement of whether the findings of research are meaningful. Refers to the likelihood that a relationship between two factors is linked by something other than chance.	có ý nghĩa về mặt thống kê

Term	Definition	Translation
<b>Teratogen (n)</b>	Something that has the potential to disturb the normal development of an embryo or fetus.	gây quái thai
<b>Termination of pregnancy (n)</b>	See “abortion.”	phá thai
<b>Test results (n)</b> <b>Negative (adj)</b>	A negative result on a diagnostic genetic test means that the laboratory did not find the specific genetic change that the test was designed to identify. A “screen negative” result on a screening test means that the person’s risk of having whatever the test was designed to find is lower than the risk for most people.	kết quả thử nghiệm di truyền âm tính
<b>Positive (adj)</b>	A positive result on a diagnostic genetic test means that the laboratory did find a specific genetic change that is associated with a hereditary condition (a deleterious mutation).  A “screen positive” result on a screening test means that the person’s risk of having whatever the test screened for is significantly higher than expected. That still does not mean that the person definitely has that condition.	dương tính
<b>Variant of uncertain significance (n)</b>	If the laboratory finds a genetic change for which currently there is not enough information to know if this change is problematic or not, it reports a “variant of uncertain significance.” Basically, this means that the laboratory found a genetic change, but they don’t know what it means. Many of these variants will eventually be reclassified as either a “positive” or “negative” result. Most become “negative” and are thought to represent natural variation between individuals.	biến thể không chắc về tầm quan trọng
<b>Polymorphism (n)</b>	Everyone has some degree of commonly occurring genetic changes that are not associated with medical problems. If the test finds this sort of change, it reports a “polymorphism.”	tính đa hình
<b>Testes (n)</b>	The organs in a man that create and release sperm. Also called “testicles.” Singular testis.	tinh hoàn
<b>Toxic exposure (n)</b>	Contact with something that is harmful or poisonous.	tiếp xúc với độc chất
<b>Trait (n)</b>	A characteristic of a person.  In genetics, traits are aspects of a person defined or influenced by their genetic code. E.g., Eye color, blood type, risk for certain diseases.	đặc điểm

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Term	Definition	Translation
<b>Translocation (n)</b>	Translocations are a type of chromosome rearrangement. They can be 'balanced', meaning that two chromosomes have pieces that have 'swapped' with each other, but there is still the correct amount of chromosome material. Balanced translocations do not usually cause medical or development problems. They can also be 'unbalanced', where pieces of chromosomes have traded places, but there is missing or extra chromosome material. Unbalanced translocations will often cause medical and development problems.	chuyển đoạn
<b>Typo (n)</b>	A mistyped word; shortened slang for "typographical error."  In genetic counseling "a typo" is commonly used as an analogy to refer to mutations or variants in a gene.	lỗi sắp chữ / : lỗi gen
<b>Ultrasound (n)</b>	An imaging method that uses high frequency sound waves to create a picture of something inside the body, such as a fetus or baby	siêu âm
<b>Uterus (n)</b>	The organ in a woman's lower abdomen in which a fertilized egg develops into an embryo, then a fetus, then a baby. Also called "womb."	tử cung
<b>Vagina (n)</b>	The tube-like part of the female reproductive system that extends from the cervix to the outside of the body.	âm đạo
<b>Variant (n)</b>	A version of something that differs from the norm. So, a genetic variant is a change to the usual genetic sequence.	biến thể
<b>Vas deferens (n)</b>	The tubes that lead from the testes to the urethra, through which sperm is ejaculated.	ống dẫn tinh
<b>X-linked (adj)</b>	A trait that is influenced or determined by a gene on the "X" chromosome.	liên quan đến nhiễm sắc thể X

## Family Relationships

For genetic counselors, it is very important to know if a relative is a blood relative or a relative by marriage.

Term	Definition	Translation
<b>Parent</b>	Your mother or father.	cha hoặc mẹ
<b>Mother</b>	For genetic purposes, the woman whose egg was fertilized and grew to be you.	mẹ
<b>Mother-in-law</b>	Your husband or wife's mother.	mẹ vợ/mẹ chồng
<b>Stepmother</b>	Your father's wife who is not your biological mother.	mẹ ghẻ (kế mẫu)
<b>Adoptive mother</b>	A woman who is not your biological mother but who accepted legal responsibility for and raised you.	mẹ nuôi
<b>Godmother</b>	A woman chosen by your parents to be your spiritual guide in life, named as such through a ceremony in the Catholic church.	mẹ đỡ đầu
<b>Father</b>	For genetic purposes, the man whose sperm fertilized the egg that grew to be you.	cha
<b>Father-in-law</b>	Your husband or wife's father.	cha vợ/cha chồng
<b>Stepfather</b>	Your mother's husband who is not your biological father.	cha ghẻ (kế phụ)
<b>Adoptive father</b>	A man who is not your biological father but who accepted legal responsibility for and raised you.	cha nuôi
<b>Godfather</b>	A man chosen by your parents to be your spiritual guide in life, named as such through a ceremony in the Catholic church.	cha đỡ đầu
<b>Aunt</b>	Your mother or father's sister or sister-in-law.	di/cô
<b>Maternal aunt</b>	Your mother's sister or sister-in-law.	di
<b>Paternal aunt</b>	Your father's sister or sister-in-law.	cô
<b>Uncle</b>	Your mother or father's brother or brother-in-law.	chú/cậu
<b>Maternal uncle</b>	Your mother's brother or brother-in-law.	cậu
<b>Paternal uncle</b>	Your father's brother or brother-in-law.	chú

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Term	Definition	Translation
<b>Cousin</b>	Usually understood to be a first cousin.	anh chị em họ
<b>First cousin</b>	Your aunt or uncle's child.	anh chị em con bác/con chú
<b>First cousin once removed</b>	Your aunt or uncle's grandchild or your first cousin's child	cháu nội ngoại của bác/chú
<b>Second cousin</b>	The children of first cousins are second cousins to each other.	anh chị em con chú con bác
<b>Grandparent</b>	Your parent's father or mother.	ông bà nội / ngoại
<b>Grandmother</b>	Your mother or father's mother.	bà nội / ngoại
<b>Maternal grandmother</b>	Your mother's mother.	bà ngoại
<b>Paternal grandmother</b>	Your father's mother.	bà nội
<b>Grandfather</b>	Your mother or father's father.	ông nội / ngoại
<b>Maternal grandfather</b>	Your mother's father.	ông ngoại
<b>Paternal grandfather</b>	Your father's father.	ông nội
<b>Great aunt</b>	Your mother or father's aunt.	bà cô / bà di
<b>Maternal great aunt</b>	Your mother's aunt.	bà di
<b>Paternal great aunt</b>	Your father's aunt.	bà cô
<b>Great uncle</b>	Your father or mother's uncle.	ông bác / ông chú
<b>Maternal great uncle</b>	Your mother's uncle.	ông cậu
<b>Paternal great uncle</b>	Your father's uncle.	ông chú
<b>Great grandparents</b>	The parents of any of your grandparents.	ông bà cố nội / ngoại
<b>Great grandmother</b>	The mother of any of your grandparents.	bà cố nội / ngoại
<b>Great grandfather</b>	The father of any of your grandparents.	ông cố nội / ngoại

Term	Definition	Translation
<b>Siblings</b>	The children of your father and mother.	anh chị em
<b>Half siblings</b>	Siblings (brothers and sisters) who have either the same mother and different fathers, or the same father but different mothers. Half-siblings share some genetic similarity with you.	anh chị em cùng cha khác mẹ/cùng mẹ khác cha
<b>Stepsiblings</b>	The children of your stepmother but not your father; or the children of your stepfather but not your mother. Stepsiblings do not share any genetic similarity with you.	anh chị em ghẻ
<b>Twins</b>	Two siblings born at the same time	anh chị em song sinh
<b>Identical twins</b>	A twin that developed from the same egg and sperm, meaning that they are mostly genetically identical. Also called monozygotic twins.	anh chị em song sinh cùng trứng
<b>Fraternal twins</b>	A twin who developed from a different egg and sperm than, meaning that he or she is genetically different and has the same number of shared genes as any other sibling. Also called dizygotic twins.	anh chị em song sinh khác trứng
<b>Triplets</b>	Three siblings born at the same time	anh chị em sinh ba
<b>Sister</b>	A sibling who is a girl.	chị em gái
<b>Sister-in-law</b>	Your brother's wife.	chị em dâu
<b>Half sister</b>	A girl who is the either the child of your father with a different mother, or the child of your mother with a different father.	chị em cùng cha khác mẹ/cùng mẹ khác cha
<b>Stepsister</b>	The daughter of your stepmother or stepfather and therefore not biologically related to you.	chị em ghẻ
<b>Brother</b>	A sibling who is a boy.	anh em trai
<b>Brother-in-law</b>	Your sister's husband.	anh em rể
<b>Half brother</b>	A boy who is the either the child of your father with a different mother, or the child of your mother with a different father.	anh em cùng cha khác mẹ/cùng mẹ khác cha
<b>Stepbrother</b>	The son of your stepmother or stepfather and therefore not biologically related to you.	anh em ghẻ
<b>Niece</b>	Your sibling's daughter.	cháu gái
<b>Nephew</b>	Your sibling's son.	cháu trai

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Term	Definition	Translation
<b>Spouse</b>	Your husband or wife.	người phối ngẫu
<b>Wife</b>	The woman to whom you are married.	vợ
<b>Husband</b>	The man to whom you are married.	chồng
<b>Children</b>	Genetically speaking, the people who are produced from your egg or sperm.	các con
<b>Daughter</b>	Your child who is a girl.	con gái
<b>Daughter-in-law</b>	Your son's wife.	con dâu
<b>Stepdaughter</b>	Your spouse's daughter who is not your biological child.	con gái ghê
<b>Adoptive daughter</b>	A girl for whom you have accepted legal responsibility and raised even though she is not your biological child.	con gái nuôi
<b>Goddaughter</b>	A girl for whom you have accepted spiritual responsibility within a ceremony of the Catholic church; she may or may not be biologically related to you.	con gái đỡ đầu
<b>Son</b>	Your child who is a boy.	con trai
<b>Son-in-law</b>	Your daughter's husband.	con rể
<b>Stepson</b>	Your spouse's son who is not your biological child.	con trai ghê
<b>Adoptive son</b>	A boy for whom you have accepted legal responsibility and raised even though he is not your biological child.	con trai nuôi
<b>Godson</b>	A boy for whom you have accepted spiritual responsibility within a ceremony of the Catholic church. He may or may not be biologically related to you.	con trai đỡ đầu
<b>Ancestor</b>	A person from whom you are descended, usually more remote than a grandparent.	tổ tiên
<b>Fiancé(e)</b>	The person whom you have promised to marry.  Man: fiancé  Woman: fiancée	vị hôn phu (vị hôn thê)
<b>Domestic partner</b>	The person with whom you are living and have an intimate relationship, but to whom you are not married.	bạn tình sống chung nhà



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Term	Definition	Translation
<b>Divorced</b>	Having ended a marriage.	ly dị
<b>Engaged</b>	Having promised to marry someone.	đính hôn
<b>Widow</b>	A woman whose husband has died.	quả phụ/góa phụ
<b>Widower</b>	A man whose wife has died.	người góa vợ/quan phu
<b>Relative</b>	A person in your family.	thân nhân
<b>Blood relation</b>	A person who is related to you by blood not marriage, e.g., your sister, but not your sister-in-law; your mother but not your stepmother; your daughter but not your adopted daughter.	liên hệ huyết thống
<b>Next of kin</b>	Your closest living blood relation.	thân nhân ruột thịt gần nhất

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## Analogies

Genetic counselors often use analogies to explain complex ideas in genetics. An analogy explains a new concept by comparing it to something more common. A clue that an analogy is being used are the words “It’s as if” and “It’s like . . . .”

Examples:

“Genes are **like** an instruction book or an instruction manual. And in a book, there is a certain sequence to a story.”

“**It’s as if** you were reading through a long book and looking for one typo, for a letter that is mistaken.”

“So, a mutation is **like** an unexpected change in the order of the letters.”

“A gene is **like** a recipe, and mutations are like changes in that recipe.”

“It’s **like** chapters in a book, and like misspellings.”

“Our cells are **like** libraries and our chromosomes are like books.”

“**Like** a flip of a coin.” (to explain that there is a 50% chance that a mutation will be passed on every time the patient has a child).

“Inside every cell are genes, which are **like** instruction books for our bodies; they tell our bodies how to grow and develop.”

“It is kind of **like** you a reading a book and you notice that a word is spelled wrong; that is what this genetic test looks for.”

Some analogies may not work with certain patients, due to linguistic or experiential differences.

Analogies that focus on genes as “letters in a book” may make no sense to speakers of character-based written languages such as Chinese, Japanese, and Korean.

“**It’s as if** you were reading through a long book and looking for one typo, for a letter that is mistaken.”

“So a mutation is **like** an unexpected change in the order of the letters.”

“It’s **like** chapters in a book, and like misspellings.”

“It is kind of **like** if you a reading a book and you notice that a word is spelled wrong; that is what this genetic test looks for.”

Analogies that focus on genes as a recipe may not work for patients who do not cook with written recipes.

“A gene is like a recipe, and mutations are like changes in that recipe.”

Analogies that discuss random chance in terms of a coin toss may not work for patients from cultures where people don't flip coins to make decisions.

“Like a flip of a coin” (to explain that there is a 50% chance that a mutation will be passed on every time the patient has a child).

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