



National Coordinating Center
for the Regional Genetics Networks

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

Glossary of Prenatal Genetics Terms

English – Arabic

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>.

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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/>

Table of Contents

Preface	5
How to Use the Glossary.....	5
Glossary of Terms.....	7
Family Relationships.....	21
Analogies	27
Index	29



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 – Arabic

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

Term	Definition	Translation
Abnormal (adj)	Different from what is considered normal, average, or expected, e.g., a gene sequence that is different than that found in most people.	غير طبيعي
Abortion (n)	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.”	إجهاض متعمد
Adoption (n)	The process of legally taking someone else’s child into your family to raise as your own child.	تبني
Amniocentesis (n)	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.	فحص السائل الأمنيوسي
Amniotic fluid (n)	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.	السائل الأمنيوسي (السائل الذي يحيط بالجنين)
Anencephaly (n)	A neural tube defect that results in insufficient brain growth in a fetus. Babies with anencephaly usually die soon after birth or are stillborn.	انعدام الدماغ
Benign (adj)	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.”	حميد
Birth canal (n)	The passageway from the uterus through the cervix, the vagina, and the vulva through which a baby passes during the birth process.	قناة الولادة

Glossary of Prenatal Genetics Terms - Arabic

Term	Definition	Translation
Birth defect (n)	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."	عيب خلقي (عيب ولادي)
Blood test (n)	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.	تحليل الدم تحليل / فحص دم
Buccal swab (n)	A way to collect DNA from the cells on the inside of a person's cheek.	مسحة الشدق
Carrier (n)	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.	ناقل/حامل
Cell (n)	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.	خلية
Cervix (n)	The narrow lower part of the uterus than connects to the vagina.	عنق الرحم
Chorionic Villus Sampling (CVS) (n)	A procedure during pregnancy in which a sample of cells from the placenta is removed to check for possible genetic abnormalities.	أخذ عينة من الزغابات المشيمية
Chromosome (n)	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.	كروموسوم
Chromosome test / Karyotype (n)	A test that looks at the number and types of chromosomes in a cell.	فحص الكروموسومات / النمط النووي
Cleft lip (n)	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.	شق الشفة

Glossary of Prenatal Genetics Terms - Arabic

Term	Definition	Translation
Cleft palate (n)	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.	الحنك المشقوق
Clinically significant (adj)	If a test result is “clinically significant,” the result indicates a medical problem that can impact a person’s life.	ذو أهمية أو دلالة من الناحية الإكلينيكية
Condition (e.g., “genetic condition”) (n)	A long-term medical health issue.	حالة مرضية (مثلا: حالة وراثية)
Consanguinity (n)	When parents are blood relatives to each other.	قرباة العصب
Cystic fibrosis (n)	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.	التليف الكيسي
Deleterious mutation/ Disease-causing mutation (n)	A change in a person’s DNA that may cause a medical condition.	طفرة ضارة / الطفرة المسببة للأمراض
Deletion (n)	Having a section of genetic information (DNA) missing.	حذف الكروموسوم (خبن الصبغي)
Diagnostic test (n)	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.	اختبار/فحص تشخيصي

Term	Definition	Translation
DNA (Deoxyribonucleic Acid) (n)	<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>	الحمض النووي DNA (حمض الديوكسي ريبونوكليك)
DNA marker (also called a "Genetic marker") (n)	A readily recognizable genetic trait, gene, or DNA segment.	علامة الحمض النووي DNA (وتسمى أيضا "علامة جينية")
DNA mutation (n)	<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>	طفرة في الحمض النووي DNA
DNA sequence (n)	The exact arrangement of the chemicals that make up a section of DNA.	سلسلة الحمض النووي DNA
DNA sequencing (n)	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.	تقنية تسلسل الحمض النووي DNA
Dominant (adj)	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.	سائدة / غالبية
Donor egg or sperm (n)	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.	بويضة أو حيوان منوي من المتبرع

Term	Definition	Translation
Down syndrome (Trisomy 21) (n)	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.	متلازمة داون (التثلث الصبغي 21)
Duplication (n)	Having an extra section of genetic information (DNA). A duplication occurs when part of a chromosome is copied abnormally, resulting in extra genetic material.	تضاعف
Edwards syndrome (Trisomy 18) (n)	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.	متلازمة ادواردز (التثلث الصبغي 18)
Egg (n)	The reproductive cells of a woman. When fertilized by sperm, the egg will grow into an embryo. Also called an "ovum," plural "ova."	بويضة
Embryo (n)	An unborn mammal, between conception and 8 weeks of gestation.	جنين (في الفترة ما بين التكون و8 اسابيع من الحمل)
Fallopian tube (n)	The tube that connects an ovary to the uterus.	قناة فالوب
False negative (n)	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.	نتيجة سلبية خاطئة
False positive (n)	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.	نتيجة إيجابية خاطئة
Familial (adj)	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.	عائلي
Family history (n)	The medical history of the members of a biological family.	تاريخ عائلي
Fertilization (n)	The joining of an egg and sperm to create the first cell that will develop into an embryo, then fetus, then baby.	إخصاب
Fetal surgery (n)	Surgery conducted on a fetus while it is still in the uterus.	جراحة لجنين داخل الرحم

Term	Definition	Translation
Fetus (n)	An unborn mammal, between 8 weeks of gestation to birth.	جنين (في الفترة ما بين 8 أسابيع حتى الولادة)
First trimester screening (n)	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.	فحوصات الثلث الأول من الحمل
Flip a coin (v)	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.	رمي عملة معدنية (مصطلح يُستخدم للتعبير عن اتخاذ قرار عشوائي)
Fragile X syndrome (n)	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.	متلازمة كروموزوم إكس الهش
Fragment (n)	A small piece; an incomplete part of a whole.	شظية مقطع شذفة
Gene (n)	A specific sequence of DNA that codes for one or many functions within the cell and body.	جينة (وحدة وراثية)
General population (n)	"Most people." 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.	عامية السكان
Generation (n)	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. 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.	جيل

Term	Definition	Translation
Genetics (adj)	The science of how an organism's genes interact with the environment to produce certain traits.	علم الوراثة/الجينات
Genetic counseling (n)	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.	استشارة وراثية
Genetic counseling intern (n)	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.	طالب تحت التمرين في مجال تقديم الاستشارات الوراثية
Genetic counselor (n)	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.	مستشار وراثي
Genetic discrimination (n)	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.	التمييز أو التفرقة بسبب التكوين الجيني للشخص
Genetic factors (n)	Specific aspects of a person's genetic make-up that influence that person's health and development.	عوامل جينية
Genetic information (n)	The instructions encoded in DNA, which tells every cell in a body how to grow, what to do and how to reproduce.	معلومات جينية
Genetic material (n)	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.	المادة الجينية
Genetic predisposition (n)	An increased chance of a person developing a certain trait or disease based on that person's particular genetic makeup.	استعداد جيني
Genetic test (n)	A laboratory test designed to determine if a person has a change to their DNA.	اختبار جيني

Glossary of Prenatal Genetics Terms - Arabic

Term	Definition	Translation
Genetic trait (n)	A characteristic within a family that is passed down from parent to child through their DNA.	سمة جينية
Genetic variant (n)	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.	المتغيرات الجينية
Geneticist (n)	A doctor or scientist who studies genetics.	عالم وراثية/أخصائي في علم الجينات
Hereditary (adj)	Passed down from parent to child.	وراثي
Hereditary material (n)	Genetic material that is passed down from parent to child.	مادة وراثية
In Vitro Fertilization (IVF) (n)	The fertilization of an egg by a sperm outside of a woman's body. 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.	الإخصاب في المختبر (IVF)
Infertility (n)	The inability to have children.	العقم
Informed consent (n)	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.	موافقة مستنيرة موافقة باطلاع / بناء عن معرفة
Inheritance pattern (n)	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.	نمط وراثي
Inherited (adj)	Passed down from parent to child.	موروث
Insertion (n)	Having an extra segment of DNA added in at a place where it is not usually found.	إدراج
Intellectual disability (n)	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.	إعاقة ذهنية

Term	Definition	Translation
Klinefelter's syndrome (47, XXY) (n)	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.	متلازمة كلاينفيلتر (47 ، (XXY)
Marker chromosome (n)	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.	شظية صغيرة من كروموسوم
Maternal Serum Screening (MSS or maternal serum alpha-fetoprotein test) (n)	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.	فحص المصل الأمومي الذي يُعرف أيضًا بالفحص الثلاثي (MSS) أو اختبار قياس مستوى ألفافيتو بروتين في المصل (الأمومي)
Microarray (n)	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.	أداة مخبرية تستخدم لاكتشاف التعبير الجيني لعدد كبير جدا من الجينات في نفس الوقت.
Miscarriage (n)	The spontaneous (not intentional) loss of a pregnancy. See "abortion." Also called pregnancy loss.	الإجهاض التلقائي (فقدان الجنين)
Molecule (n)	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.	جزيء
Mosaicism (n)	A condition in which some, but not all, cells in a sample show a genetic difference.	فسيفسائية
Multifactorial (adj)	Due to a combination of genetic and non-genetic (environmental, hormonal, etc.) risk factors that act together to determine risk.	متعدد العوامل
Mutation (n)	A change in a gene, usually deleterious. See "genetic variant." In Spanish, the word is sometimes confused with "mutilation."	طفرة

Term	Definition	Translation
Non-Invasive Prenatal Testing (NIPT) (n)	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.	اختبار ما قبل الولادة غير الاجتياحي (NIPT)
Nuchal thickening (n)	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.	سماكة في منطقة مؤخر العنق لدى الجنين
Open Neural Tube Defect (ONTD) (n)	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.	عيوب الأنبوب العصبي المفتوح
Ova (n)	See "egg."	بويضات
Ovary (n)	The organ in a woman that stores and releases eggs. There are normally two.	مبيض
Penetrance (n)	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.	انتفاذ
Placenta (n)	The organ that develops together with an embryo in a pregnant woman's uterus to nourish the embryo through the umbilical cord.	المشيمة
Presymptomatic (adj)	Before symptoms appear.	سابق للأعراض
Prognosis (n)	The most likely outcome of a disease process.	توقعات سير المرض
Protein (n)	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.	بروتين
Random (adj)	Happening in an unpredictable way.	عشوائي

Term	Definition	Translation
Recessive (adj)	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.	متنحية
Red flag (n)	A warning sign or a clue.	إشارة خطر
Replicate (v)	To copy.	تكرار أو استنساخ
Reproductive history (n)	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.	التاريخ الإنجابي
Ring chromosome (n)	An abnormal formation of a chromosome in which the ends of two of the chromosome's arms have linked together to form a ring.	كروموسوم دائري
Risk (n)	The chance that something will happen; in the case of prenatal genetics, the chance that the child will have a genetic condition.	خطر
At risk (adj)	Has some possibility of having a genetic condition.	في خطر
At average risk (adj)	Has the same possibility of having a genetic condition as the general population.	عرضة لخطورة متوسطة
At high risk (adj)	Has a greater possibility of having a genetic condition than the general population.	عرضة لخطورة عالية
At higher risk than "X" (adj)	Has a greater possibility of having a genetic condition than "X."	عرضة للخطر أكثر من "س"
Risk factor (n)	A circumstance that increases the risk of having a genetic condition.	عامل الخطر
Runs in the family (e.g., sickle cell disease runs in the family) (v)	When a certain condition or trait seems to appear in many members of a single family	يسري في العائلة (على سبيل المثال، مرض الخلايا المنجلية ساري في العائلة)

Term	Definition	Translation
Screen (v)	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.	إجراء فحص
Screening test (n)	<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>	<p>اختبار يهدف للكشف عن مشكلة صحية لم تظهر لها أعراض لدى المريض</p> <p>اختبار التقصي</p>
Semen (n)	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.	المنى
Seminal fluid (n)	See "semen."	السائل المنوي
Sickle cell disease (n)	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.	مرض فقر الدم المنجلي
Sperm (n)	The reproductive cells of the man. When sperm fertilize a woman's egg, a baby develops.	الحيوانات المنوية
Sperm donation (n)	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.	التبرع بالحيوانات المنوية
Spina bifida (n)	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.	تشقق العمود الفقري أو السنسنة المشقوقة
Statistically significant (adj)	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.	ذو دلالة إحصائية

Term	Definition	Translation
Teratogen (n)	Something that has the potential to disturb the normal development of an embryo or fetus.	مسبب للمسوخ أو التشوه
Termination of pregnancy (n)	See "abortion."	إنهاء الحمل
Test results (n) Negative (adj)	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.	نتائج الفحوصات سلبية
Positive (adj)	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.	إيجابية
Variant of uncertain significance (n)	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.	متغير ذو دلالة غير مؤكدة
Polymorphism (n)	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."	تعدد الأشكال
Testes (n)	The organs in a man that create and release sperm. Also called "testicles." Singular testis.	الخصيتين
Toxic exposure (n)	Contact with something that is harmful or poisonous.	التعرض لمادة سامة
Trait (n)	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.	سمة

Term	Definition	Translation
Translocation (n)	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.	انتقال كروموسومي أو تبادل المواقع الصبغية
Typo (n)	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.	خطأ مطبعي
Ultrasound (n)	An imaging method that uses high frequency sound waves to create a picture of something inside the body, such as a fetus or baby	الموجات فوق الصوتية
Uterus (n)	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."	الرحم
Vagina (n)	The tube-like part of the female reproductive system that extends from the cervix to the outside of the body.	المهبل
Variant (n)	A version of something that differs from the norm. So, a genetic variant is a change to the usual genetic sequence.	المتغير
Vas deferens (n)	The tubes that lead from the testes to the urethra, through which sperm is ejaculated.	القناة الناقلة للمني
X-linked (adj)	A trait that is influenced or determined by a gene on the "X" chromosome.	سمة مرتبطة بكروموسوم "اكس"

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
Parent	Your mother or father.	الوالدين
Mother	For genetic purposes, the woman whose egg was fertilized and grew to be you.	الوالدة/الأم
Mother-in-law	Your husband or wife's mother.	الحماة/والدة الزوج أو الزوجة
Stepmother	Your father's wife who is not your biological mother.	زوجة الأب
Adoptive mother	A woman who is not your biological mother but who accepted legal responsibility for and raised you.	الأم بالتبني
Godmother	A woman chosen by your parents to be your spiritual guide in life, named as such through a ceremony in the Catholic church.	الأم الروحية
Father	For genetic purposes, the man whose sperm fertilized the egg that grew to be you.	الوالد/الأب
Father-in-law	Your husband or wife's father.	الحمى/والد الزوج أو الزوجة
Stepfather	Your mother's husband who is not your biological father.	زوج الأم
Adoptive father	A man who is not your biological father but who accepted legal responsibility for and raised you.	الوالد بالتبني
Godfather	A man chosen by your parents to be your spiritual guide in life, named as such through a ceremony in the Catholic church.	الأب الروحي
Aunt	Your mother or father's sister or sister-in-law.	العمة (أخت الأب أو زوجة أخوها) أو الخالة (أخت الأم أو زوجة أخوها)
Maternal aunt	Your mother's sister or sister-in-law.	الخالة (أخت الأم أو زوجة أخوها)
Paternal aunt	Your father's sister or sister-in-law.	العمة (أخت الأب أو زوجة أخوها)

Term	Definition	Translation
Uncle	Your mother or father's brother or brother-in-law.	العم (أخو الأب أو زوج أخته) أو الخال (أخو الأم أو زوج أختها)
Maternal uncle	Your mother's brother or brother-in-law.	الخال (أخو الأم أو زوج أختها)
Paternal uncle	Your father's brother or brother-in-law.	العم (أخو الأب أو زوج أخته)
Cousin	Usually understood to be a first cousin.	ابن العم أو بن العمّة
First cousin	Your aunt or uncle's child.	ابن العم أو ابن العمّة من الدرجة الأولى
First cousin once removed	Your aunt or uncle's grandchild or your first cousin's child	حفيد العم/العمّة أو الخال/الخالة أو ابن ابن العم/العمّة أو الخال/الخالة.
Second cousin	The children of first cousins are second cousins to each other.	أبناء أبناء العم/العمّة أو الخال/الخالة يعتبروا أبناء عمومة من الدرجة الثانية.
Grandparent	Your parent's father or mother.	الجدود
Grandmother	Your mother or father's mother.	الجدّة
Maternal grandmother	Your mother's mother.	الجددة/والدة الأم
Paternal grandmother	Your father's mother.	الجددة/والدة الأب
Grandfather	Your mother or father's father.	الجدّ
Maternal grandfather	Your mother's father.	الجدّ/والد الأم
Paternal grandfather	Your father's father.	الجدّ/والد الأب
Great aunt	Your mother or father's aunt.	خالّة/عمة والديين
Maternal great aunt	Your mother's aunt.	خالّة/عمة الأم
Paternal great aunt	Your father's aunt.	خالّة/عمة الأب
Great uncle	Your father or mother's uncle.	خال/عم والديين
Maternal great uncle	Your mother's uncle.	خال/عمّ الأم
Paternal great uncle	Your father's uncle.	خال/عمّ الأب

Term	Definition	Translation
Great grandparents	The parents of any of your grandparents.	والدا الجدّين
Great grandmother	The mother of any of your grandparents.	والدة الجدّ أو الجدّة
Great grandfather	The father of any of your grandparents.	والد الجدّ أو الجدّة
Siblings	The children of your father and mother.	الأخوة الأشقاء (أولاد والدك ووالدتك)
Half siblings	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.	الأخوة غير الأشقاء (من الأب فقط أو من الأم فقط)
Stepsiblings	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.	أولاد زوج الأم أو زوجة الأب
Twins	Two siblings born at the same time.	توأم
Identical twins	Twins who developed from the same egg and sperm, meaning that they are genetically identical. Also called monozygotic twins.	توأم متطابق
Fraternal twins	Twins who developed from different eggs and sperm, meaning that they are genetically different and have the same number of shared genes as any other sibling. Also called dizygotic twins.	توأم منشق غير متطابق
Triplets	Three siblings born at the same time.	توأم ثلاثي
Sister	A sibling who is a girl.	أخت
Sister-in-law	Your brother's wife or your husband's sister.	زوجة الأخ
Half sister	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.	أخت غير شقيقة
Stepsister	The daughter of your stepmother or stepfather and therefore not biologically related to you.	ابنة زوجة الأب أو زوج الأم

Term	Definition	Translation
Brother	A sibling who is a boy.	أخ
Brother-in-law	Your sister's husband or your wife's brother.	زوج الأخت
Half brother	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.	أخ غير شقيق
Stepbrother	The son of your stepmother or stepfather and therefore not biologically related to you.	ابن زوجة الأب أو زوج الأم
Niece	Your sibling's daughter.	ابنة الأخت أو ابنة الأخ
Nephew	Your sibling's son.	ابن الأخت أو ابن الأخ
Spouse	Your husband or wife.	زوج أو زوجة/شريك الحياة
Wife	The woman to whom you are married.	زوجة
Husband	The man to whom you are married.	زوج
Children	Genetically speaking, the people who are produced from your egg or sperm.	أطفال
Daughter	Your child who is a girl.	ابنة
Daughter-in-law	Your son's wife.	زوجة الابن
Stepdaughter	Your spouse's daughter who is not your biological child.	ابنة الزوجة أو ابنة الزوج
Adoptive daughter	A girl for whom you have accepted legal responsibility and raised even though she is not your biological child.	ابنة بالتبني
Goddaughter	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.	ابنة روحية

Term	Definition	Translation
Son	Your child who is a boy.	ابن
Son-in-law	Your daughter's husband.	زوج الابنة
Stepson	Your spouse's son who is not your biological child.	ابن الزوجة أو ابن الزوج
Adoptive son	A boy for whom you have accepted legal responsibility and raised even though he is not your biological child.	ابن بالتبني
Godson	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.	ابن روحي
Ancestor	A person from whom you are descended, usually more remote than a grandparent.	سلف
Fiancé(e)	The person whom you have promised to marry. Man: fiancé Woman: fiancée	خطيب أو خطيبة (الشخص الذي سوف تتزوج به) خطيب (رجل) خطيبة (امرأة)
Domestic partner	The person with whom you are living and have an intimate relationship, but to whom you are not married.	شخص تربطك به علاقة حميمة وتعيش معه بدون زواج
Divorced	Having ended a marriage.	مُطلق/مُطلقة
Engaged	Having promised to marry someone.	مخطوب/مخطوبة
Widow	A woman whose husband has died.	أرملة
Widower	A man whose wife has died.	أرمل
Relative	A person in your family.	قريب
Blood relation	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.	صلة/قرابة الدم
Next of kin	Your closest living blood relation.	أقرب الأقرباء

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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).

Index

A

Abnormal.....	7
Abortion.....	7
Adoption.....	7
Adoptive daughter.....	24
Adoptive father.....	21
Adoptive mother.....	21
Adoptive son.....	25
Amniocentesis.....	7
Amniotic fluid.....	7
Ancestor.....	25
Anencephaly.....	7
At average risk.....	17
At high risk.....	17
At higher risk than.....	17
At risk.....	17
Aunt.....	21

B

Benign.....	7
Birth canal.....	7
Birth defect.....	8
Blood relation.....	25
Blood test.....	8
Brother.....	24
Brother-in-law.....	24
Buccal swab.....	8

C

Carrier.....	8
Cell.....	8
Cervix.....	8
Children.....	24
Chorionic Villus Sampling (CVS).....	8
Chromosome.....	8
Chromosome test / Karyotype.....	8
Cleft lip.....	8
Cleft palate.....	9
Clinically significant.....	9
Condition (e.g., "Genetic condition").....	9
Consanguinity.....	9
Cousin.....	22
Cystic fibrosis.....	9

D

Daughter.....	24
Daughter-in-law.....	24
Deleterious mutation.....	9
Deletion.....	9

Diagnostic test	9
Disease-causing mutation	9
Divorced	25
DNA (Deoxyribonucleic Acid).....	10
DNA marker (also called a “Genetic marker”)	10
DNA mutation.....	10
DNA sequence	10
DNA sequencing	10
Domestic partner.....	25
Dominant.....	10
Donor egg or sperm.....	10
Down syndrome (Trisomy 21)	11
Duplication	11

E

Edwards syndrome (Trisomy 18).....	11
Egg	11
Embryo	11
Engaged	25

F

Fallopian tube.....	11
False negative	11
False positive	11
Familial	11
Family history	11
Father	21
Father-in-law	21
Fertilization.....	11
Fetal surgery.....	11
Fetus	12
Fiancé(e).....	25
First cousin.....	22
First cousin once removed	22
First trimester screening	12
Flip a coin.....	12
Fragile X syndrome	12
Fragment	12
Fraternal twins.....	23

G

Gene	12
General population.....	12
Generation.....	12
Genetic counseling	13
Genetic counseling intern.....	13
Genetic counselor.....	13
Genetic discrimination	13
Genetic factors	13
Genetic information	13
Genetic material	13
Genetic predisposition	13
Genetic test	13

Genetic trait.....	14
Genetic variant	14
Geneticist.....	14
Genetics.....	13
Goddaughter	24
Godfather	21
Godmother	21
Godson	25
Grandfather	22
Grandmother.....	22
Grandparent.....	22
Great aunt	22
Great grandfather.....	23
Great grandmother	23
Great grandparents	23
Great uncle	22
<i>H</i>	
Half brother	24
Half siblings.....	23
Half sister.....	23
Hereditary.....	14
Hereditary material	14
Husband.....	24
<i>I</i>	
Identical twins	23
In Vitro Fertilization (IVF)	14
Infertility.....	14
Informed consent	14
Inheritance pattern	14
Inherited	14
Insertion	14
Intellectual disability	14
<i>K</i>	
Klinefelter's syndrome (47, XXY)	15
<i>M</i>	
Marker chromosome.....	15
Maternal aunt.....	21
Maternal grandfather.....	22
Maternal grandmother.....	22
Maternal great aunt	22
Maternal great uncle	22
Maternal Serum Screening (MSS or maternal serum alphafetoprotein test)	15
Maternal uncle	22
Microarray	15
Miscarriage	15
Mosaicism.....	15
Mother.....	21
Mother-in-law	21
Multifactorial.....	15

N

Nephew 24
 Next of kin 25
 Niece..... 24
 Non-Invasive Prenatal Testing (NIPT) 16
 Nuchal thickening..... 16

O

Open neural tube defect 16
 Ova 16
 Ovary 16

P

Parent 21
 Paternal aunt 21
 Paternal grandfather 22
 Paternal grandmother 22
 Paternal great aunt..... 22
 Paternal great uncle 22
 Paternal uncle..... 22
 Penetrance 16
 Placenta 16
 Polymorphism..... 19
 Presymptomatic 16
 Prognosis 16
 Protein 16

R

Random 16
 Recessive 17
 Red flag..... 17
 Relative 25
 Replicate 17
 Reproductive history 17
 Ring chromosome..... 17
 Risk 17
 Risk factor..... 17
 Runs in the family..... 17

S

Screen 18
 Screening test..... 18
 Second cousin..... 22
 Semen..... 18
 Seminal fluid..... 18
 Siblings..... 23
 Sickle cell disease 18
 Sister..... 23
 Sister-in-law 23
 Son..... 25
 Son-in-law..... 25
 Sperm 18

Sperm donation	18
Spina bifida	18
Spouse	24
Statistically significant	18
Stepbrother	24
Stepdaughter	24
Stepfather	21
Stepmother	21
Stepsiblings	23
Stepsister	23
Stepson	25
<i>T</i>	
Teratogen	19
Termination of pregnancy	19
Test results	19
Testes	19
To flip a coin	12
Toxic exposure	19
Trait	19
Translocation	20
Triples	23
Twins	23
Typo	20
<i>U</i>	
Ultrasound	20
Uncle	22
Uterus	20
<i>V</i>	
Vagina	20
Variant	20
Variant of uncertain significance	19
Vas deferens	20
<i>W</i>	
Widow	25
Widower	25
Wife	24
<i>X</i>	
X-linked	20