Appendix-I

Acronyms

- A Gene is "a stretch of DNA, ranging from a few thousand to tens of thousands of base pairs, that produces a specific product, usually a protein
- Albino: Having pale or colorless skin, eyes, and hair because the body does not produce enough pigment.
- Alpha-Fetoprotein Test (AFP): A prenatal test to measure the amount of a fetal protein in the mother's blood. Abnormal amounts of the protein may indicate genetic problems in the fetus.
- Americans With Disabilities ACT (ADA): A 1990 federal law that forbids discrimination against persons who are disabled.
- Amniocentesis: A prenatal test in which cells surrounding a fetus are removed in order to examine the chromosomes.
- Artificial Insemination: The injection of semen into a woman's uterus (not through sexual intercourse) in order to make her pregnant.
- Autosomes: Humans normally have 23 pairs of chromosomes, one member of each pair derived from the mother and one from the father. One of those pairs consists of the sex chromosomes – with two X chromosomes determining femaleness, and one X and one Y determining maleness. The other 22 chromosomes are known as Autosomes.
- Bases: Distinct chemical ingredients found in the genetic material of all life forms.
- Behavioral Genetics: The study of whether and how traits for behavior are inherited.
- Biotechnology: The use of living things to make products. CARRIER: A person who has one copy of the gene mutation for a recessive disorder. Carriers are not affected by the disorder. However, they can pass on the mutated gene to their children. Children who inherit two such genes may be affected by the disorder.
- Chorionic Villus Sampling (CVS): A prenatal test in which cells surrounding an embryo are removed in order to examine the chromosomes.

- Chromosomes: Separate strands of genes, contained in the nucleus of a cell. Normally, chromosomes appear in corresponding pairs. A genome is made up of a complete set of paired chromosomes.
- Clone: To make an exact copy of something.
- Crossing Over: Where a section of one chromosome switches places with the same section from the other chromosome of the pair. This sometimes occurs when a germ cell makes copies of its chromosomes before dividing.
- Cultivate: The DNA of each gene is characterized by a unique sequence of bases that form the 'genetic code'. These bases are arranged in groups of three, known as cultivate To cause to grow and multiply, such as by growing cells in a laboratory dish that contains nutrients.
- Data Bank: A collection of information organized so that specific facts can be retrieved as needed. Today, many data banks are organized on computers.
- Disorders: Problems in how the body functions. Health problems caused by mutations in the genes are referred to as genetic disorders.
- DNA Fingerprinting: A term for DNA typing.
- DNA Marker: A gene or other fragment of DNA whose location in the genome is known.
- DNA Typing: The analysis of sections of DNA for purposes of identification.
- DNA: The material inside the nucleus of cells that carries genetic information. The scientific name for DNA is deoxyribonucleic acid.
- Dominant: Having power and influence. In genetics, a dominant gene is a gene that expresses its instructions.
- Embryo: An animal in the early stage of development before birth. In humans, the embryo stage is the first three months following conception.
- Enotransplantation: The transplantation of genetically engineered animal organs into a human body
- Environment: The nongenetic conditions and circumstances that affect a person's conduct and health.
- Enzymes: Proteins that trigger activity in the cells of the body. An enzyme is not affected by the activity that it sets off.

- Ethical Issues: Questions concerning what is moral or right.
- Ethicists: People who spend time thinking about ethics, that is, about values related to human conduct.
- Eugenics: The belief that information about heredity can be used to improve the human race.
- Evolution: The process by which all forms of plant and animal life change slowly over time because of slight variations in the genes that one generation passes down to the next.
- Ex Utero Genetic Testing: DNA analysis performed on cells of eggs that have been fertilized *in vitro*.
- Fetus: An animal in the later stage of development before birth. In humans, the fetal stage is the from the end of the third month until birth.
- Gene Therapy: The altering of genes in order to affect their function.
- Genes: Units of hereditary information. Genes contain the instructions for the production of proteins, which make up the structure of cells and direct their activities.
- Genetic Counseling: Education and guidance offered by professional advisors in order to help people make informed decisions based on genetic knowledge. Genetic counseling is intended to help a person understand the meaning of specific information about his or her genes. It also is intended to help a person decide whether to have a genetic test performed or what to do with information provided by such a test.
- Genetic Determinism: The false belief that solely his or her genes determine a person's fate.
- Genetic Engineering: The artificial introduction of changes to the genes in a cell.
- Genetic Expression: The effects of a gene's instruction on the cells of the body.
- Genetic Linkage Study: Examination of the DNA of family members to determine who may be at risk for a genetic disorder occurring in the family tree. Doctors look for variations that consistently appear in the DNA of family members with the disorder. These DNA variations may or may not be related to the genetic

disorder. However, if they appear in the DNA of another family member, it can indicate the person's risk of inheriting the disorder

- Genetic Products – Item produced by the use of genetic materials, including proteins, nucleic acid probes, nucleic acid constructs such as vectors and plasmids, and anti-sense DNA.
- Genetic Profile: A collection of information about a person's genes.
- Genetics: the field of science that looks at how traits are passed down from one generation to another, through the genes.
- Genome: The complete package of genetic material for a living thing, organized in chromosomes. A copy of the genome is found in most cells.
- Genotype: refers generally to the genetic makeup of an organism; however, it also can be used to describe the genetic makeup at a number of loci, from one to the total number.
- Germ Cells: The cells of the body involved in reproduction. Sperm of the male and eggs of the female are formed from germ cells.
- Germ-Line Therapy: The altering of genes in reproductive cells (sperm or egg) in order to affect their function in any offspring that may be created.
- Heredity: The handing down of certain traits from parents to their offspring. The process of heredity occurs through the genes.
- Heterozygous. A person whose DNA falls into different bins is said to be heterozygous.
- Homologous almost all cells in the human body contain 23 pairs of chromosomes (for a total of 46 chromosomes). The two members of a chromosome pair are said to be
- Homozygous, A person who's DNA falls into the same bin is said to be homozygous
- Hormones: Proteins produced by organs of the body that trigger activity in other locations.
- Human Genome Project: The scientific mission to "read" the order of bases as they appear in the DNA of human chromosomes. The Human Genome Project actually is not one project, but rather many hundreds of separate research projects

being conducted throughout the world. The objective is to create a directory of the genes that can be used to answer questions such as what specific genes do and how they work.

- Huntington's Disease (HD): A dominant genetic disorder in which a protein is produced abnormally, leading to the breakdown in the parts of the brain that control movement. A neurodegenerative disease which is inherited in an autosomal dominant pattern)
- Immune Disorders: Health problems caused by the fact that the body cannot properly fight infection.
- Karyotype: A picture of the chromosomes in a cell that is used to check for abnormalities. Staining the chromosomes with dye and photographing them through a microscope create a karyotype. The photograph is then cut up and rearranged so that the chromosomes are lined up into corresponding pairs.
- Legal Issues: Questions concerning the protections that laws or regulations should provide.
- Multifactorial Disorders: complex interaction between genes and the environment
- Mutation: Changes that occur to the order of bases appearing in the DNA inside a cell.
- Nuclear Transfer Technology: A procedure for making a clone, or exact genetic copy, of an existing animal. In this procedure the nucleus containing the chromosomes is removed from the cell of one animal for fusion with an egg cell from which the nucleus has been removed. The life that results is the genetic equal of the animal that donated the nucleus.
- Nuclei: The plural of nucleus.
- Nucleus: The central part of a cell where the chromosomes are contained. .
- Paternity: Identification of the father of a child.
- Pigment: The dyelike material in cells that provides color to skin, eye and hair.
- Prenatal: Before birth.
- Privacy: The condition of being left alone, out of public view and in control of information that is known about you.

- Proteins: The basic chemicals that make up the structure of cells and direct their activities.
- Recessive: Moving back and out of view. In genetics, a recessive gene is a gene that does not express its instructions when paired with a dominant gene.
- Reproductive Technology: The application of scientific knowledge to assist in making babies.
- Selective Breeding: The selection of certain seeds or animals for reproduction in order to influence the traits inherited by the next generation.
- Severe Combined Immunodeficiency (SCID): An immune disorder in which the body does not produce the special blood cells that resist infection.
- Sickle Cell Anemia: A recessive genetic disorder in which red blood cells take on an unusual shape, leading to other problems with the blood.
- Social Issues: Questions concerning how events may affect society as a whole and individuals in society.
- Species: A single, distinct class of living creature with features that distinguish it from others.
- Transcription. This process of reading the message in the DNA is called Transcription
- Transgenic: Containing genes from another species.
- Viruses: Extremely small and simple life forms made merely of a protein shell and a genome. A virus reproduces by inserting its genome into the cells of other life forms. As those cells duplicate, so does the virus.