

GLOSSARY OF SOME COMMON TERMS RELATED TO REPRODUCTIVE AND GENETIC TECHNOLOGIES (RGTS)

The definitions are not listed alphabetically because the sequence of terminology provides information about the progression in development of these scientific discoveries. Terms listed are not exhaustive, but they are considered to be the main terminologies used in public discussion and debate.

DNA (deoxyribonucleic acid) – the biochemical unit of heredity and the constituent material in all genes (Health Canada, 2001).

Genes – the physical and functional units of heredity. They are composed of DNA sequences and are located on cellular structures known as chromosomes (Health Canada, 2001).

Genetics – the study of heredity and the variation of inherited characteristics (HC). Genetics is not a single practice, discipline or social issue. It involves a series of choices made by parents, scientists, health professionals and government agencies. (Health Canada, 2001; McTeer, 1999).

Genetic testing – medical testing using a sample of an individual's blood or other tissue to identify specific genetic markers (Health Canada, 2001).

Genetic screening – a process for determining whether persons are predisposed to certain diseases and whether couples have the possibility of giving birth to a genetically impaired infant (Health Canada, 2001).

Genetic diagnosis – the process of biopsy of embryos to determine the presence of genetic flaws and gender prior to implantation (Health Canada, 2001).

Genetic engineering – the ability to alter organisms for a variety of purposes, particularly to promote their health and strength (Health Canada, 2001).

Gene therapy – the process of inserting new genetic material into an organism for the purpose of treating or controlling a genetic disease (Health Canada, 2001).

Genome – all of an organism's genetic material, including chromosomes, genes and DNA (Health Canada, 2001).

Genomics – the study of the structure and function of the genome (Health Canada, 2001).

Human Genome Project – a multibillion-dollar international science endeavour to identify and sequence all human genes.

Germ Cell – the cell or cell line that produces sperm or ova from reproduction and through which genetic traits or changes can be passed from one generation to the next (Health Canada, 2001).

Stem Cell – primordial, all purpose and undifferentiated cells from which all the body's tissues develop. Human embryonic stem cells can develop into any of the body's 210 types of cells (McTeer, 1999).

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Cloning – the process of producing a group of cells all genetically identical to the original cell from which they started. In gene technology, cloning is the process of producing multiple copies of a single gene or segment of DNA, as in skin or cartilage cloning (McTeer, 1999).

Human Clone – an embryo that as a result of manipulation of human reproductive material contains the same nuclear deoxyribonucleic acid sequence as is found in the cell of a living or deceased human being, fetus or embryo.

Late onset diseases – gene based diseases whose symptoms typically appear in adulthood (Health Canada, 2001).

Mutations – changes or alterations within a gene that may or may not be harmful (Health Canada, 2001).

Reproductive technologies – practices or research attempting to overcome infertility or manipulate the normal conception process to produce a pregnancy.

Human reproductive material – a sperm, ovum, other human cell, human gene or in vitro embryo; includes any part of them (Health Canada, 2001).

Assisted human reproduction – the assisted reproduction of human beings, i.e. involving third-party intervention, e.g., donor insemination, in vitro fertilization and intra cytoplasmic sperm injection (McTeer, 1999).

Intra cytoplasmic sperm injection – variation of in vitro fertilization treatment where a single sperm is injected into an egg using a microscopic needle (McTeer, 1999).

Biotechnology – the process of making products using living organisms or the components of living organisms in contrast to purely chemical processes (Health Canada, 2001).

Bioinformatics – the application of computer and statistical techniques to analyze and manage biological data, in particular, genomic data (Health Canada, 2001).

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References:

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- McTeer, M. (1999). *Tough choices: Living and dying in the 21st century*. Toronto: Irwin Law.

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