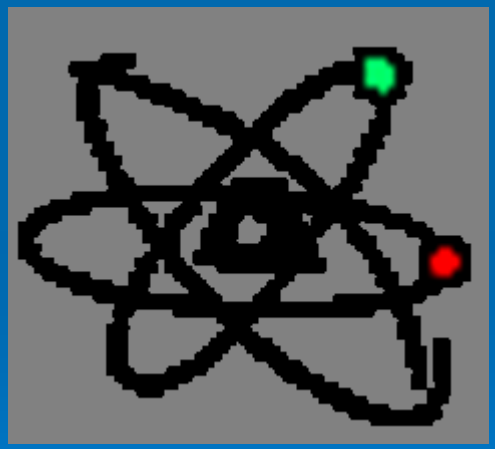
Embryo Testing, Genetic Counseling and Abortion



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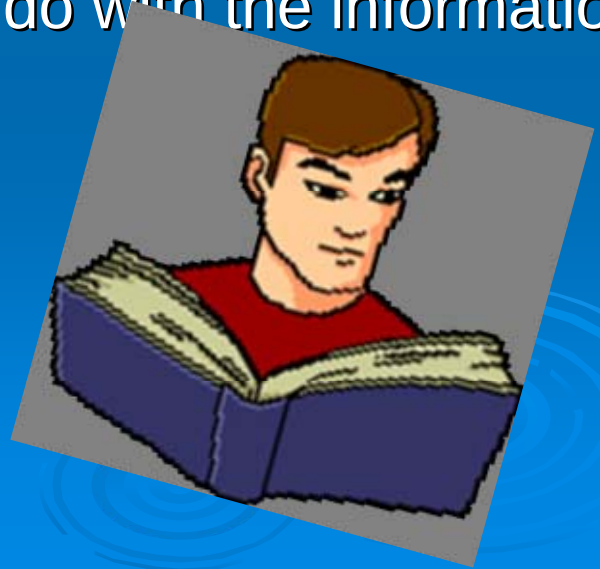
What is Embryo/Genetic Testing?

- Embryo Testing
  - Screening embryos before implantation is a way to prevent abnormalities during pregnancy
    - Embryos that appear to be normal may have chromosomal defects which can not be noticed until tested.
    - Testing can also identify the gender of the embryo.
    - Generally performed with couples trying to overcome infertility, although testing could prove valuable to people who have a high susceptibility to genetic defects.

- Genetic Testing
  - Analyzing DNA, RNA, or chromosomal abnormalities that cause or are likely to cause specific disease or condition.

What is Genetic Counseling?

Education and guidance offered by professional advisors in order to help people make informed decisions based on genetic knowledge. The advisors help the person understand the meaning of specific information about their genes. Once the test results are looked over the advisor helps the person decide whether to have a genetic test performed or what to do with the information provided by the test.



Types of Genetic Tests

- Carrier Testing
  - Performed to determine whether an individual carries a copy for a particular recessive disease. It is usually done in the context of reproductive planning and can be done before a pregnancy occurs.
- Pre-implantation diagnosis
  - Used after in vitro fertilization to diagnose a genetic disease or condition in a pre-implantation embryo
- Newborn Screening
  - Performed in newborns, usually as part of state public health programs, to detect certain genetic diseases where early diagnosis and treatment are available

Types of Genetic Tests Continued

- Diagnostic/Confirmatory testing
  - Used to identify or confirm the diagnosis of a disease or condition in an affected individual. Diagnostic testing may also be useful to help predict the course of a disease and determine the choice of treatment
- Predictive Testing
  - Determines the probability that a healthy individual with or without a family history of a certain disease might develop the disease.
- The development of genetic testing is likely to increase rapidly over the next decade. Right now genetic testing is available for more than 900 diseases or conditions in more than 550 laboratories in the United States

The Most Common Types of Genetic Testing

- Amniocentesis
  - The most common test prenatal test performed today (Morris, 1993)
  - Estimated Fetal loss during procedure is 0.5% (O'Connor, 1989)
  - Includes taking a small sample of the fluid surrounding the fetus. With this sample, the determination of the sex and genetic abnormality can be found

The Most Common Types of Genetic Testing Continued

- Chorionic Villi Sampling
  - Can be performed at a much earlier age of the fetus compared to an amniocentesis test. As early as eight weeks.
- Alpha-fetoprotein Sampling
  - A blood test from the mother that determines the variation of high and low concentrations of alpha-fetoprotein in the mother's blood that can indicate a risk of fetal genetic abnormalities

What Does the Testing Prove?

- The most common diseases found through genetic testing are sickle cell disease, Tay-Sachs disease, canavan's disease and cystic fibrosis. Along with many others.
- The results may be difficult to interpret and explain
- Some humans may develop polymorphisms, which are variations in their DNA that look as if something is wrong but in fact does not actually affect their health

The Benefits

- Gene testing has already dramatically improved lives, some tests are used to clarify a diagnosis and direct a physician toward appropriate treatments, while others allow families to avoid having children with devastating diseases or identify people at high risk for conditions that may be preventable.

The Risks

- Commercialized gene tests for adult disorders such as Alzheimer's disease and some cancers are the subject of most of the debate over gene testing. These tests are targeted to healthy people who are identified as being at high risk because of a strong family medical history for the disorder. The tests give a probability for developing the disorder. One of the most serious limitations of these tests is the difficulty in interpreting a positive result because some people who carry a disease associated mutation never develop the disease.

What Can Result From PGT?

- After finding out about diseases or disabilities that your child might have the parent could research and prepare for their child or they could choose to abort it.

Abortion

- Refers to any premature expulsion of a human fetus, whether naturally spontaneous or artificially induced.
- The vast majority of all abortions preformed today are done for social, not medical reasons.
  - Isn’t ready for a baby, partner wants her to have an abortion, not prepared to take care of a child with abnormalities, etc.

Abortion Techniques

- First Trimester
  - Suction Aspiration – surgical
  - Dilatation and Curettage – surgical
  - RU 486 – chemical
  - Methotrexate – chemical
- Second and Third Trimesters
  - Dilatation and Evacuation – surgical
  - Salt Poisoning – chemical
  - Partial – Birth Abortion – surgical
  - Hysterotomy - surgical

Questions???