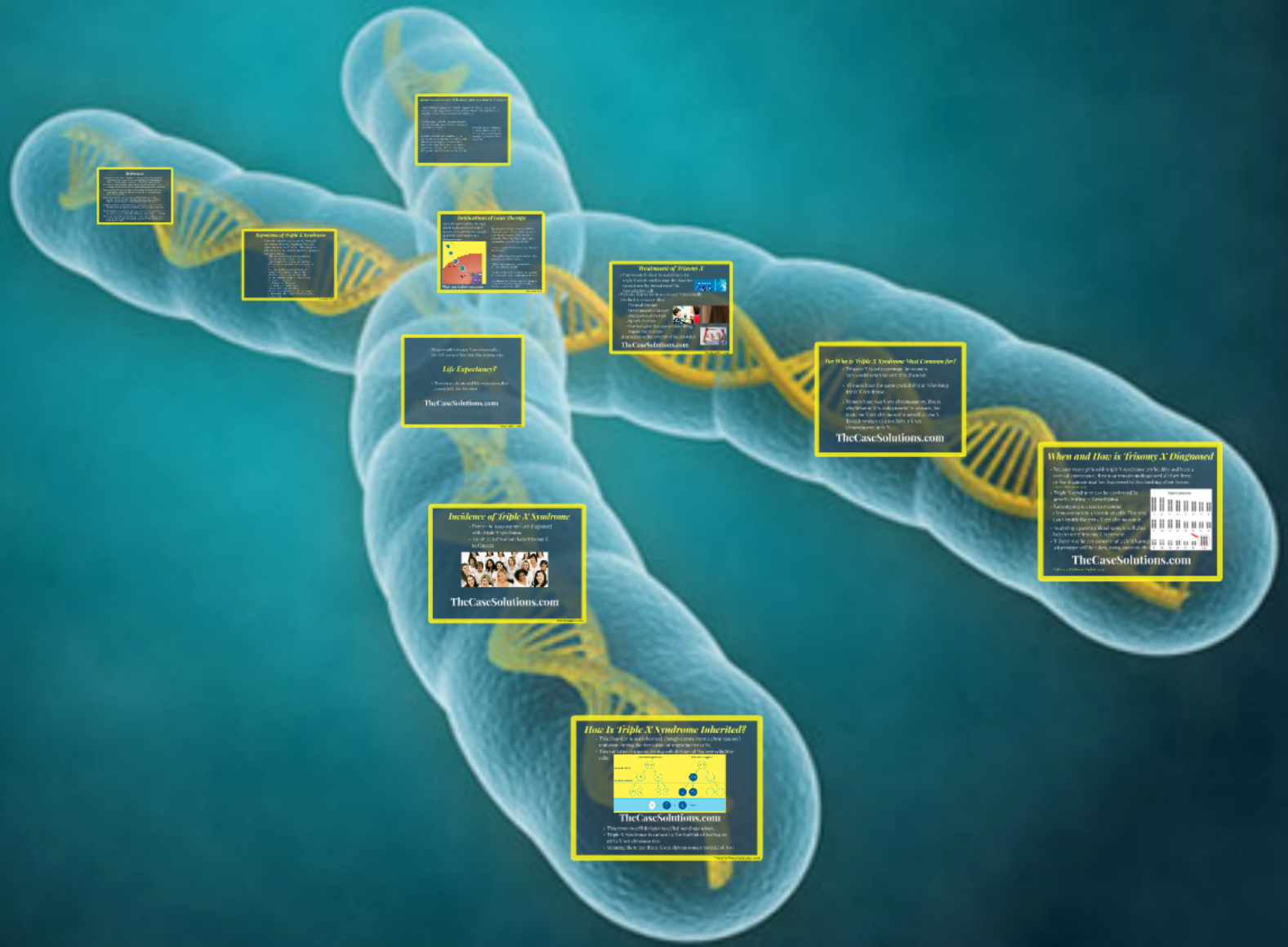
Triple Point Technology



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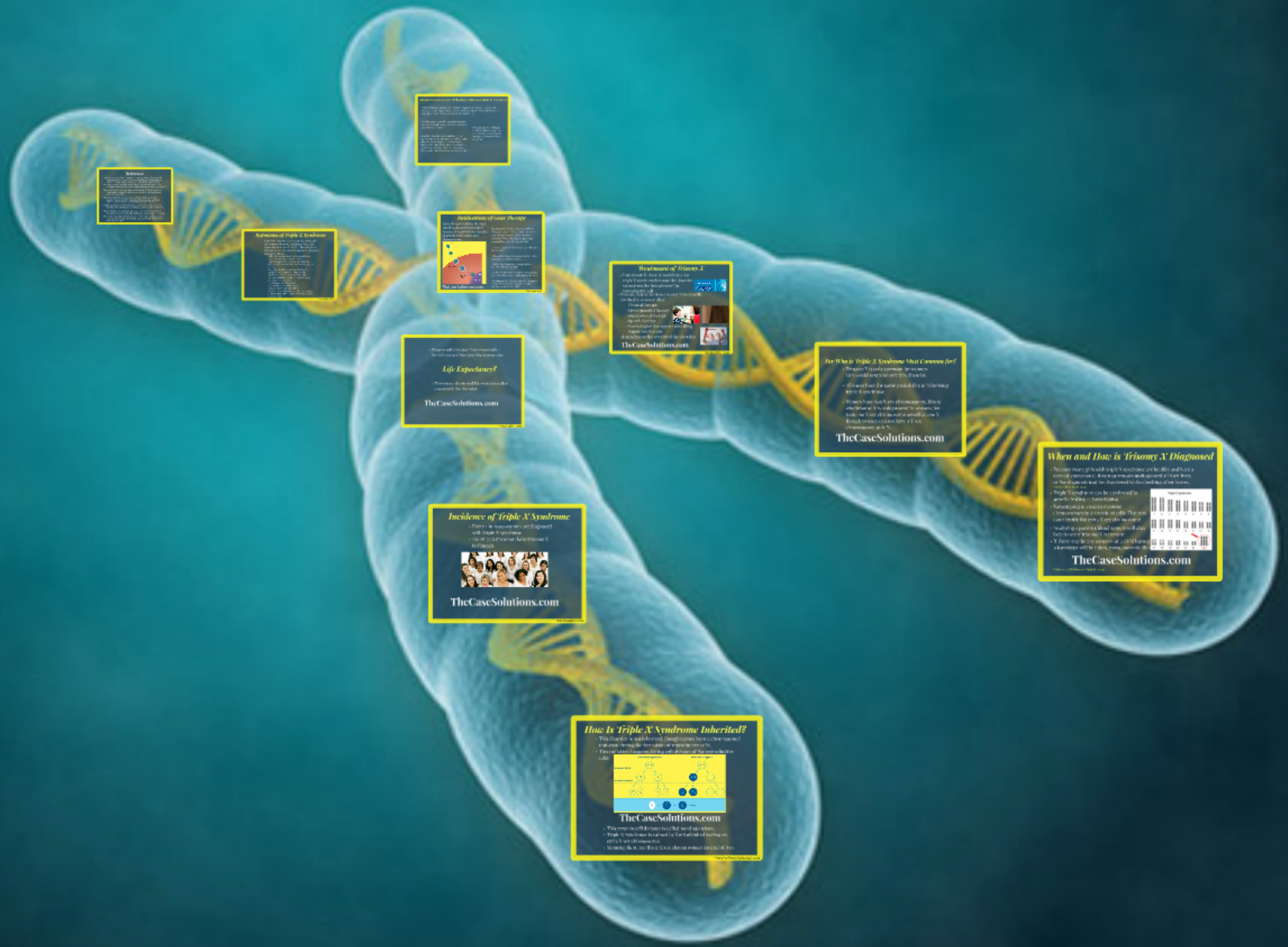
Triple Point Technology



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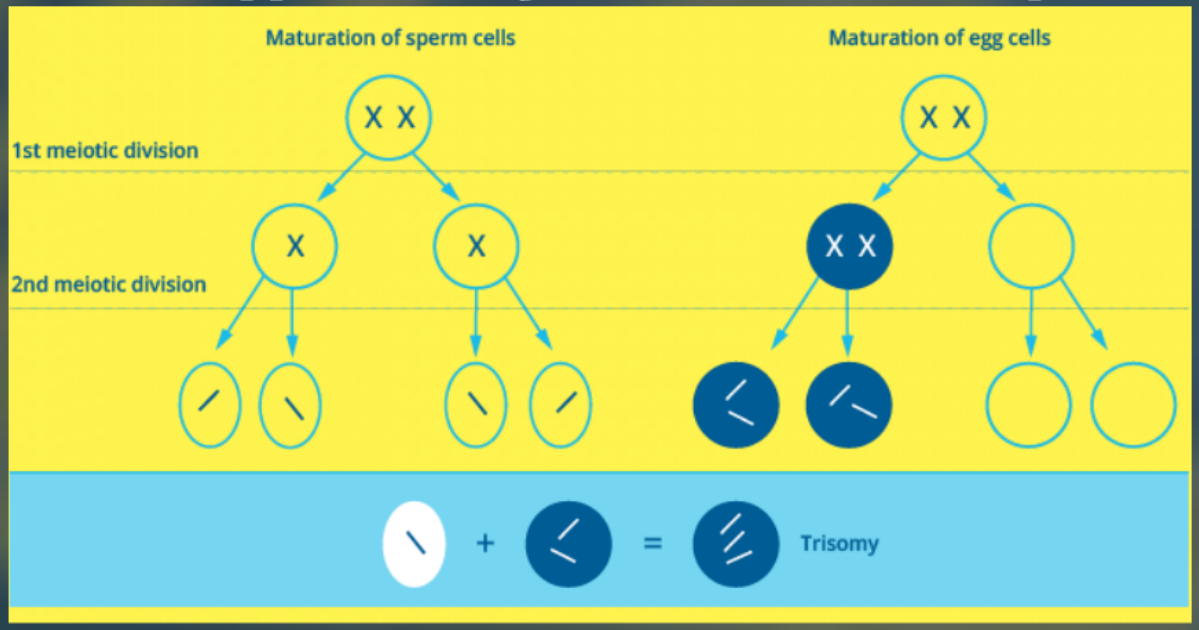
How Is Triple X Syndrome Inherited?

- This disorder is not inherited, though comes from a chromosomal mutation during the formation of reproductive cells.
- This mutation happens during cell division of the reproductive cells.

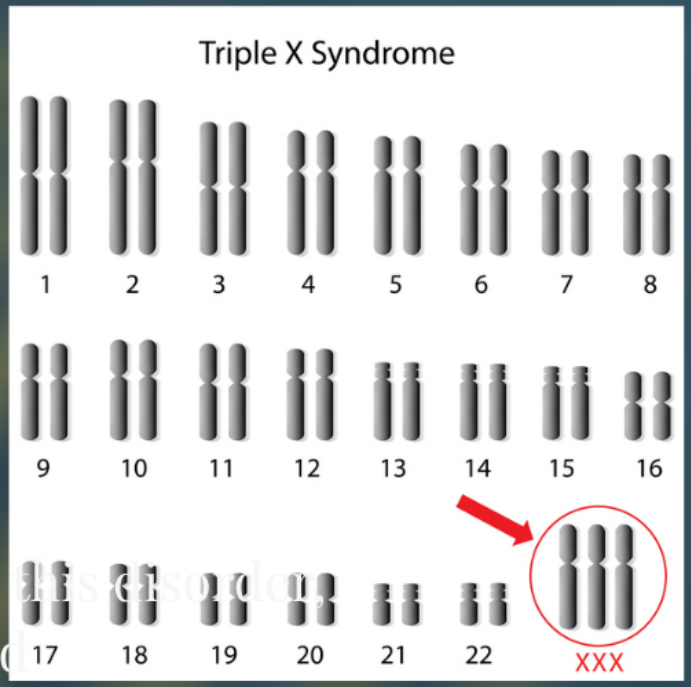


- This error in cell division is called nondisjunction,
- Triple X Syndrome is caused by the individual having an extra X sex chromosome.
- Meaning there are three X sex chromosomes instead of two.

("Genetics Home Reference", 2016)

When and How is Trisomy X Diagnosed

- Because many girls with triple X syndrome are healthy and have a normal appearance, they may remain undiagnosed all their lives, or the diagnosis may be discovered while checking other issues. (Mayo Clinic Staff, 2015)
- Triple X syndrome can be confirmed by genetic testing — Karyotyping
- Karyotyping is a test to examine chromosomes in a sample of cells. This test can identify the extra X sex chromosome.
- Analysing a patients blood sample will also help to see if trisomy X is present
- If there may be any concern of a child having [illegible], a karyotype will be taken, using amniotic fluid



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Points 2-4 (Haldeman-Englert, 2014)

Incidence of Triple X Syndrome

- Every 1 in 1000 women are diagnosed with triple X syndrome
- About 32,507 women have trisomy X in Canada

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(Right Diagnosis, 2015)

For Who is Triple X Syndrome Most Common for?

- Trisomy X is only common for women. Men could never inherit this disorder.
- All races have the same probability of inheriting triple X syndrome.
- Women have two X sex chromosomes, this is why trisomy X is only present in women, for men one Y sex chromosome aswell as one X. though women can not have a Y sex chromosome, only X.

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- Women with trisomy X are expected to live full normal lives just like anyone else

Life Expectancy?

- There is no shortened life expectancy that comes with the disorder.

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(Amarendra, 2016)

Treatmeant of Trisomy X

- Unfortunately there is no full cure for triple X syndrome because the disorder stems from the formation of the reproductive cell.

- Patients that suffer from trisomy X are usually involved in some or all of:
  - -Physical therapy
  - -Developmental therapy
  - -Occupational therapy
  - -Speech therapy
  - -Psychological therapy or councilling
  - -Supportive therapy

(depending on the severity of the disorder)

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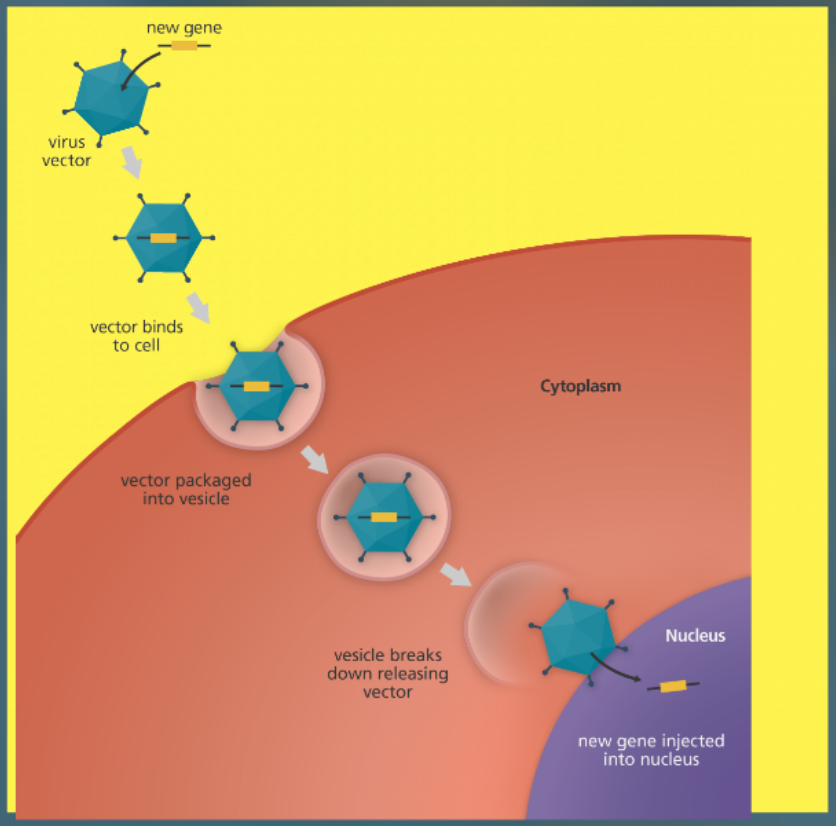
(Amarendra, 2016)

Implications of Gene Therapy

Gene therapy would be the most useful treatment for trisomy X because it deals with the changing of genetic information and chromosomes.



Because gene therapy involves making changes to genes in the chromosomes, it raises many unique ethical and social concerns. The ethical/social questions surrounding gene therapy include:

-How can "good" and "bad" uses of gene therapy be distinguished?

-Who decides which traits are normal and which constitute a disability or disorder?

-Will the high costs of gene therapy make it available only to the wealthy?

-Could the widespread use of gene therapy make society less accepting of people who are different?

-Should people be allowed to use gene therapy to enhance basic human traits such as height, intelligence, or athletic ability?

(Bergeson, 1997)