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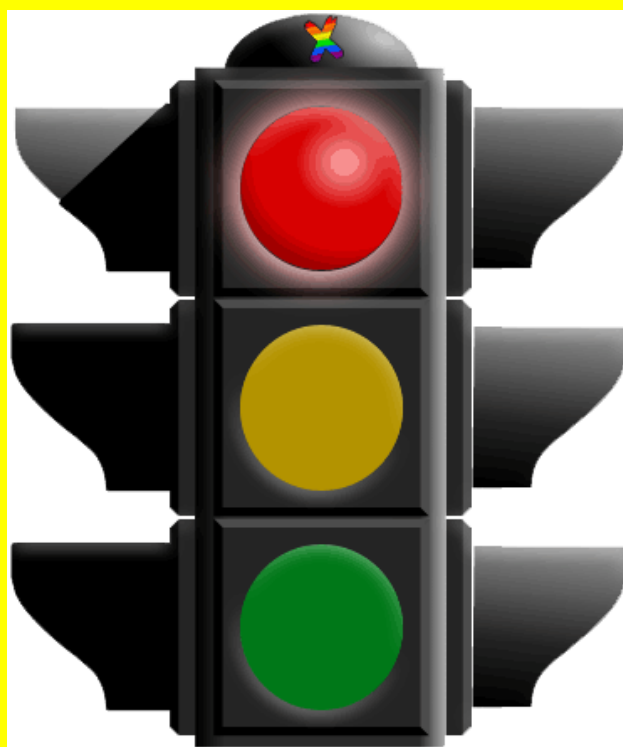
Asexual Reproduction

Advantages	Disadvantages
Does not require a mate/partner	No genetic variability (disease kills all)
Good traits always passed on	Bad traits always passed on
rapid	rapid

Sexual	Asexual
Two Partners (mats)	Reproduces Individually
Unique Organism (Zygote)	Identical Offspring (Daughter cell)

Hormones for Cell Growth and Division

Knowing the factors that either promote or inhibit cell growth and cell division is important.

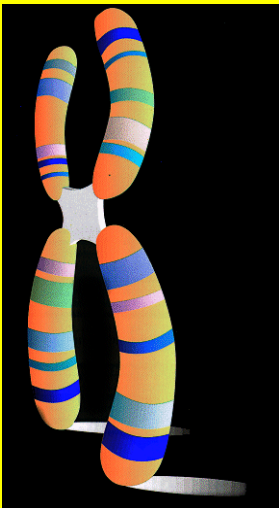


How do cells communicate with each other?

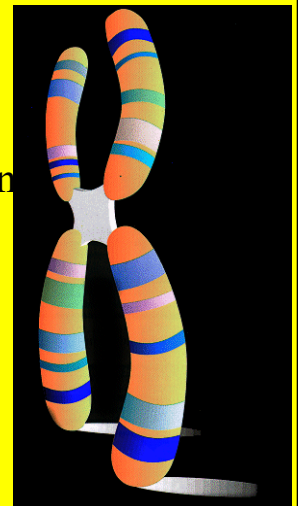


Cells communicate with each other by chemical messengers called hormones.

Why don't all cells relay the same message? Why are some people taller than others?



The answer to these questions rests in our genes. Different genes code for the production of certain hormones and certain amounts of hormones.



What can affect hormone release?

Many factors can affect hormone release.

- The release of plant hormones can be stimulated by light or temperature.
- The release of human hormones for growth can be stimulated by cell damage.
- other factors include: Stress, high blood pressure, and sunlight, to name just a few.

Plant Growth Hormones

Plants produce a variety of growth hormones. Two examples are:

Auxin- are plant hormones that cause plant cells to elongate (grow taller)

Cytokinins- are plant hormones that promote the growth of buds on the side of a branches on trees, causing the tree to grow wider.

<http://www.botanical-online.com/animation8.htm>



Animal/Human Growth Hormones

Growth hormones trigger cell division and increase the production of new proteins. New cells require proteins for a new cell membrane and the organelles found within the cytoplasm.



Too Much Growth Hormones????

High secretions of the growth hormone during childhood can result in gigantism.





One of the most famous giants was a man named Robert Wadlow Robert reached an adult weight of 490 pounds and 8 feet 11 inches in height, He died at age 22

Tallest man

<https://www.youtube.com/watch?>
26 min

World's shortest man

Today's world tallest man

Big meets small

London received a striking visitor today as the worlds newly-crowned tallest man, Turkish Sultan Kösen (26) who measures a staggering 8 ft 1 in (246.5 cm), toured the city in celebration of the launch of Guinness World Records 2010 edition

http://www.youtube.com/watch?v=zL_nklbytY





<http://www.youtube.com/watch?v=CE2Sj6CsuBw&feature=related>



<https://www.dailymotion.com/video/xs3wg6> 43 min



Effects of GH hypersecretion
Gigantism

- Gigantism is a very rare disease (annual incidence: 3/1.000.000)
- Gigantism results from increased GH secretion during childhood
- At puberty, the epiphyseal plates of the long bones close, so they become unresponsive to GH stimulation, However, this is not the case of the hands, feet, skull and lower jaw
- they continue to grow, resulting in the distinctive physical appearance of an acromegaly patients



Some Characteristics of Gigantism

- Excessive growth makes the child extremely large for his or her age
- Delayed puberty
- Double vision or difficulty with side vision
- Frontal bossing & prominent jaw
- Headache
- Increased sweating
- Irregular periods (menstruation)
- Large hands & feet with thick fingers and toes
- Weakness



Underproduction of Growth Hormones?????

Low productions of growth hormones during childhood can result in **Pituitary dwarfism**.

<http://tlc.howstuffworks.com/tv/little-people-big-world>



http://www.youtube.com/watch?v=ArwJOpY_fZI&feature=fvsr

<https://www.youtube.com/watch?v=nq56RmhPNsM>

<http://www.youtube.com/watch?v=WFEFP5x2Gy0>

<http://www.youtube.com/watch?v=KSz0D-o6D6k&feature=related>

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