

OUR CHOICES BECOME OUR ACTIONS. OUR ACTIONS BECOME OUR HABITS. OUR HABITS BECOME OUR CHARACTER. -MICHAEL HYATT-

WHAT IS CANCER

Cancer is the name given to a collection of related diseases. In all types of cancer, some of the body's cells begin to divide without stopping and spread into surrounding tissues.

https://www.cancer.gov/about-cancer/understanding/what-is-cancer#related-diseases



PS 139: 14

I will praise You; for I am fearfully and wonderfully made; Marvelous are Your works; and that my soul knows very well.

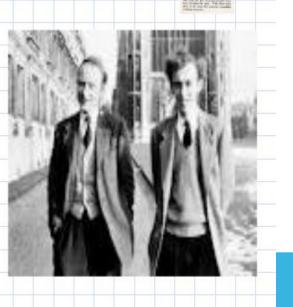
DANIEL 12:4

But you Daniel shut up the words, and seal the book until the time of end: many shall run to and fro and <u>knowledge shall increase.</u>

DNA

James Watson & Francis Crick-1953

While Franklin was continuing her research, Watson and Crick were building 3-D models of DNA out of cardboard and wire. Their models were not correct or successful until they saw Franklin's x-ray patterns. Then they were able to build a correct model of DNA which is a double helix.



CHALLENGE

Try to answer God's Questions in Job 38, 39, 40, and 41

Can you?

Cancer can start almost anywhere in the human body, which is made up of trillions of cells.

https://www.cancer.gov/about-cancer/understanding/what-is-cancer#related-diseases

How much is 10 trillion? 10 at 12 power or 10,000,000,000,000.00

HUMAN CELLS LIFE SPAN

Cells living on fast track:

- stomach lining cells replace themselves every 5 days,
- cells on the top layer of the skin about 7 days,
- red blood cells about 4 months, liver cells bout 5 months.

https://science.howstuffworks.com/life/cellular-microscopic/does-body-really-replace-seven-years2.htm

HUMAN CELLS LIFE SPAN

Cells living on slow track: bone replaces all of its cells in about 10 years,

cells in the deeper layers of the intestines about 5 years,

Hair cells – 3years for men and 6 years for women

https://science.howstuffworks.com/life/cellular-microscopic/does-body-really-replace-seven-years2.htm

HUMAN CELLS LIFE SPAN

Cells that do not replace themselves: Oocytes (female reproducive cells) Nerve cells Eye lenses cells Some cardiac cells

http://book.bionumbers.org/how-quickly-do-different-cells-in-the-body-replace-themselves/

cell type	turnover time	BNID
small intestine epithelium	2-4 days	107812, 109231
stomach	2-9 days	101940
blood Neutrophils	1-5 days	101940
white blood cells Eosinophils	2-5 days	109901, 109902
gastrointestinal colon crypt cells	3-4 days	107812
cervix	6 days	110321
lungs alveoli	8 days	101940
tongue taste buds (rat)	10 days	111427
platelets	10 days	111407,111408
bone osteoclasts	2 weeks	109906
intestine Paneth cells	20 days	107812
skin epidermis cells	10-30 days	109214, 109215
pancreas beta cells (rat)	20-50 days	109228
blood B cells (mouse)	4-7 weeks	107910
trachea	1-2 months	101940
hematopoietic stem cells	2 months	109232
sperm (male gametes)	2 months	110319, 110320
bone osteoblasts	3 months	109907
red blood cells	4 months	101706, 107875
liver hepatocyte cells	0.5-1 year	109233
fat cells	8 years	103455
cardiomyocytes	0.5-10% per year	107076, 107077, 107078
central nervous system	life time	101940
skeleton	10% per year	109908
lens cells	life time	109840
oocytes (female gametes)	life time	111451

DNA IN THE CELL

Cell

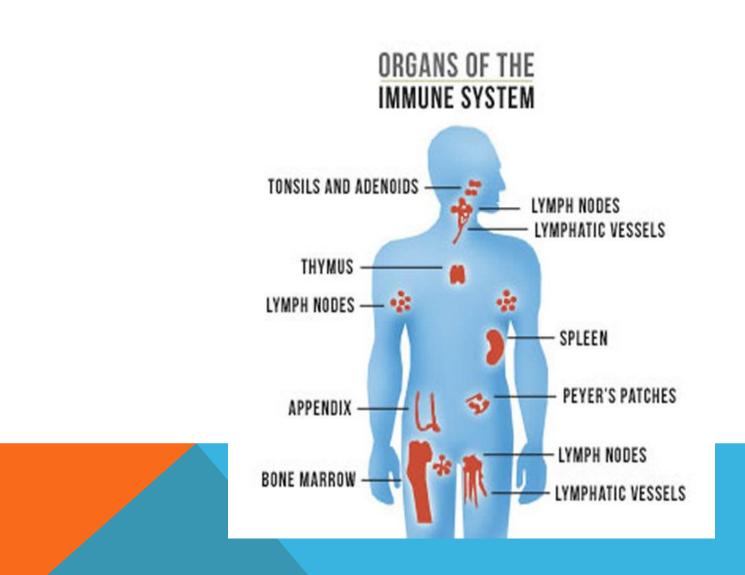


DNA

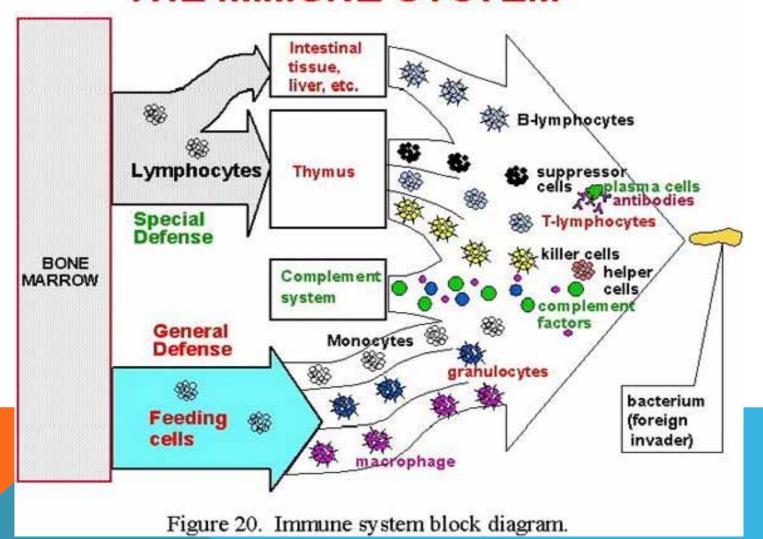
DNA IMAGE



DNA REPLICATION Overall direction of replication Leading Origin of replication Lagging strand strand A COLUMN AND A COLUMN Lagging Leading **OVERVIEW** strand strand Leading 5'111111 **DNA** ligase Replication fork DNA pol I Primase Parental DNA



IMMUNE SYSTEM THE IMMUNE SYSTEM



CANCER CATEGORIES

Carcinomas – cancers that affect skin, mucous membranes, glands and internal organs.

Leukemias – cancers of blood forming tissues.

- Sarcomas cancers that affect muscle, connective tissues, and bones.
- Lymphomas cancers that affect the lymphatic system.



NATIONAL CANCER ACT

Nixon Signs \$1.6 Billion Cancer Bill, Names Man to Head Fight

WASHINGTON (UPI)-President the act was "a milestone in the long Nixon today signed into law a \$1.6 billion program to find a cure for and difficult effort to the cr and cures of car This law is

President Nixon signs the National Cancer Act in 1971. Photo courtesy of the National Cancer Institute.

A combination of genetic, behavioral, environmental, and lifestyle factors that can create the right condition for cancerous cell development

CANCER INHIBITORS

a number of factors that are known to inhibit or slow down the development of cancer



internal factors genetics (10%) infections gender and race also play a role in development of certain cancers.



External factors unhealthy workplace unhealthy living environment exposure to water and air pollution, chemicals, pesticides and herbicides.



Lifestyle (65%) diet, smoking, drinking, sun exposure.



CANCER SCREENING GUIDELINES

Breast Cancer : Women 40 and older should have a mammogram every year.

- Cervical Cancer: Women over 21 years PAP smears every 1-3 years.
- Prostate Cancer: Men over 50 should consider asking about testing for prostate cancer.

Colon Cancer: Every one past age of 50 should have a colonoscopy every 10 years. https://www.cancer.org/healthy/find-cancer-

early/cancer-screening-guidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html

CANCER AWARENESS

- C change in bowel and bladder habits
- A A sore that does not heal,
- U Unusual bleeding or discharge
- T Thickening or lump in breast or elsewhere
- I Indigestion or difficulty swallowing
- 0 Obvious changes in a wart or mole,
- N Nagging cough or hoarseness.

WHY CANCER?

the problem with cancer is two fold: weak immune system environment promoting the cancel cell development.

REDUCE YOUR RISK OF CANCER

Stay away form all forms of tobacco,

- Get to an stay at a healthy weight,
- Get moving with regular physical activity
- Eat healthy with plenty of fruits and vegetables
- Limit how much alcohol you drink (if you drink at all)
- Protect your skin,
- Know yourself, your family history, and your risks, Get regular check ups and cancer screening

https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines/american-cancer-society-guidelines-for-theearly-detection-of-cancer.html

Phillipians 2:5

Let this mind be in you which was also in Christ Jesus



Matthew 16:24

The Jesus said to His disciples: "If anyone desires to come after Me, *let him deny himself*, and take up his cross and follow Me"

John 14: 15 If you love Me keep My commandments

Acts 1:8

But you shall receive power when the Holy spirit has come upon you; and you shall be witnesses to Me in Jerusalem, in all Judea and Samaria, and to the end of the earth.

Acts 22: 15

For you will be *His witness to all men* of what you have seen and heard.



1 Peter 1:16

Because it is written, "Be holy, for I am holy."

