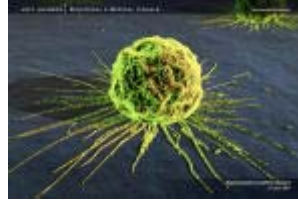


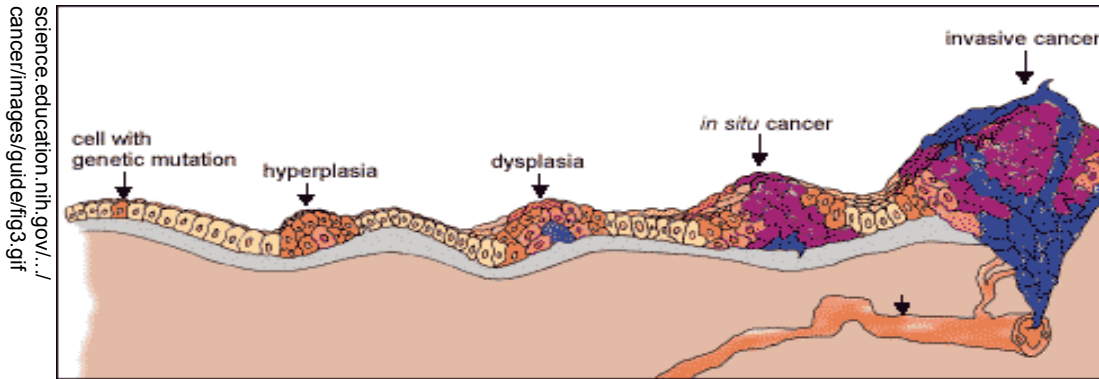
What is cancer?

Cancer is an abnormal state of the body wherein there is an uncontrolled proliferation of one or more type of cells in the body—simply put, growth of a certain inappropriate growth normal physiological symptoms in the body. One reason the cells are able to proliferate genetically is due to a genetic abnormality of the cells leading to reversion to a less differentiated, more developmentally primitive state.



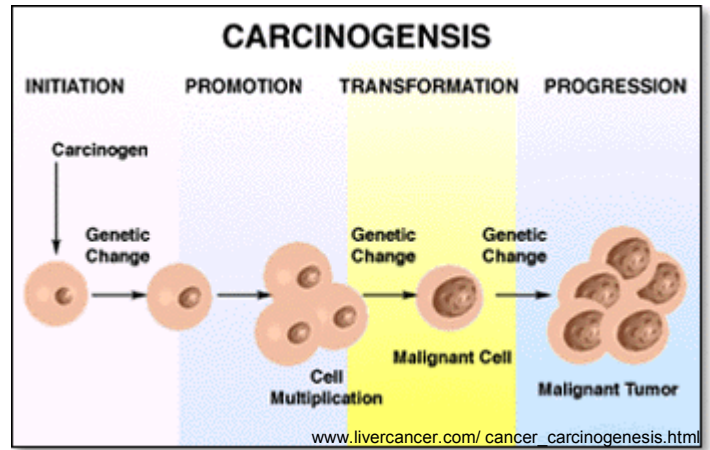
more type of cells in the cancer is the inappropriate tissue type. This eventually interferes with functioning and causes One reason the cells are uncontrollably is due to a genetic abnormality of the cells leading to reversion to a less differentiated, more developmentally primitive state.

- a) Cancer is a part of one's body. Cancer arises from tissues already inside one's body (e.g. someone does not necessarily become 'infected' with cancer and then grows a tumor). Thus the cancer is part of one's self.
- b) This means that the once normal tissues in the body somehow turned cancerous and to do so there had to be some type of influence on the tissues that turned cancerous from normal in order to induce such a change. This influence can be genetic, environmental, viral or other.
- c) This change is a result of a long process in the body that, for a period of time could be resisted by the body, but eventually it overwhelmed the body's defenses and the local cells became cancerous.

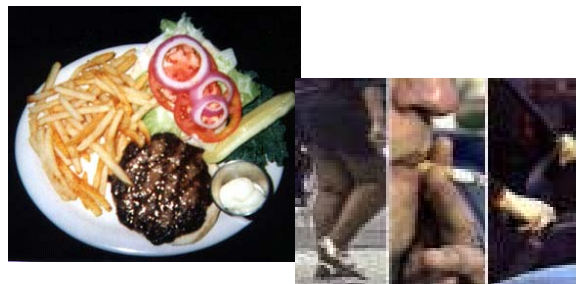


- d) Becoming cancerous only means that there was some type of influence on the genes in one's cells and somewhere along the way, the DNA in those genes was damaged. This damage caused the cell to behave improperly and when the cell divided (as all cells normally do, some cells more frequently than others) the new cell also bore the same damaged DNA. And so on, and so on....
- e) Cancer is not a entirely a single cellular disease. Although a cancer usually arises from one type of cell (colon cancer or ovarian cancer, for instance) it is a multifactorial event that usually arises from some type of immune system malfunction.
- f) Because the cancer is part of a person, the rest of their body does not necessarily 'see' the cancer as foreign; thus when the immune system is patrolling the body, the white blood cells sometimes bypass the cancerous cells.
- g) Because the cancer can sometimes evade the immune system, it is able to establish itself, grow and proliferate, thus establishing itself as a tumor.

2. Cancer, then, does not develop all at once as a massive disruption of normal cellular functions. Rather, as one ages, they acquire characteristics that, if left unchecked, can lead to the accumulation of many damaged cells—a tumor. Cancer is mostly a disease of older people—a population who have lived long enough to have experienced a complex and extended succession of events that lead to the development of cancer. Carcinogenesis is a multi-step process that requires a consistent insult to the system especially directed towards an area of susceptibility.



3. Causes of cancer: the causes of cancer are all around us. If we pay attention to our environment, the food we eat, how we treat other people, the water we drink, our attitudes towards life events, the air we breathe, the amount of daylight we are exposed to, environmental conditioning, etc... we may be able to prevent cancer. In essence, cancer can be considered a disease of lifestyle. However, one mystery of cancer is the development of a malignant tumor in someone who has been "doing everything right."



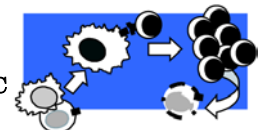
[www.cnn.com/2000/HEALTH/03/24/unhealthy.america.02/](http://www.cnn.com/2000/HEALTH/03/24/unhealthy.america.02/)

- a. General
  - i. age
  - ii. genetic instability
  - iii. lack of local nutrition
  - iv. inflammation
  - v. emotional issues
  - vi. environment
    - 1. toxins
    - 2. sun
    - 3. ionizing radiation
    - 4. tobacco smoke
    - 5. diet
  - vii. immune dysfunction



- 1. colon adenocarcinoma
- 2. lung adenocarcinoma
- 3. breast adenocarcinoma
- 4. prostate adenocarcinoma
- 5. melanoma

[www.the-scientist.com/yr2002/apr/research\\_020401.html](http://www.the-scientist.com/yr2002/apr/research_020401.html)

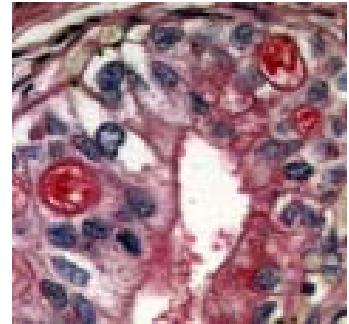


### 3. Cell and tissue types

a) **Carcinoma (ectoderm or endoderm)**: abnormal development of the epithelial cells that line organs and cover the surface of the body (~ 90% of all cancers fit into this category). ectoderm (outer layer of cells)

b) **Sarcoma** A solid tumor occurring in connective tissue, muscle, and bone (~ 2% of all cancers) which ultimately stems from the embryonic *mesoderm* (middle layer of cells), from which bone, muscle, and blood are derived, is the usual source of a *sarcoma*, *leukemia*, or *lymphoma*

- **Adenomatous cells**—ductal or glandular cells
- **Squamous cells**—flat cells
- **Myeloid**—blood cell
- **Lymphoid**—lymphocytes or macrophages
- 



[www.metrohealth.org/.../images/section5/mcr055d.jpg](http://www.metrohealth.org/.../images/section5/mcr055d.jpg)

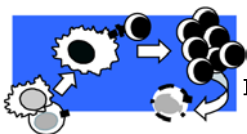
### 4. Viruses and cancer

- a. Non Hodgkin's Lymphoma
- b. Burkitt's lymphoma
- c. ovarian cancer
- d. Kaposi's sarcoma
- e. hepatocellular carcinoma
- f. multiple myeloma
- g. Burkitt's lymphoma
- h. breast adenocarcinoma
- i. nasopharyngeal
- j. cervical carcinoma
- k. pancreatic adenocarcinoma
- l. HTLV



**A human CD4+ T cell being attacked by HIV**

[www.ciencianews.com.br/HIV.jpg](http://www.ciencianews.com.br/HIV.jpg)



Rubin Medical Consulting, LLC