

CANCER IN THE AGE OF BIOTECHNOLOGY

What is Cancer?

While at face value this seems like a simple question which might garner a simple answer. In reality the answer is a complicated discussion based on genetics, environment, biochemistry and cellular mechanisms gone amuck to create a tumor. However, let's try to make the answer as simple as possible.

Cancer is a cell, or group of cells, that grow out of control and create a tumor. That tumor then crowds out other cells in the immediate area and cause normal cellular functions to work incorrectly.

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One disease or many?

Cancer can take on many different forms in many different locations in the human body. Some start on the surface of the skin, in our bones or lungs or in the various cells in our blood.

Not all cancers are the same. Some are very aggressive and some are slow in growth. Some are very treatable (and ultimately curable), and others are difficult to treat.

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Basic Vocabulary

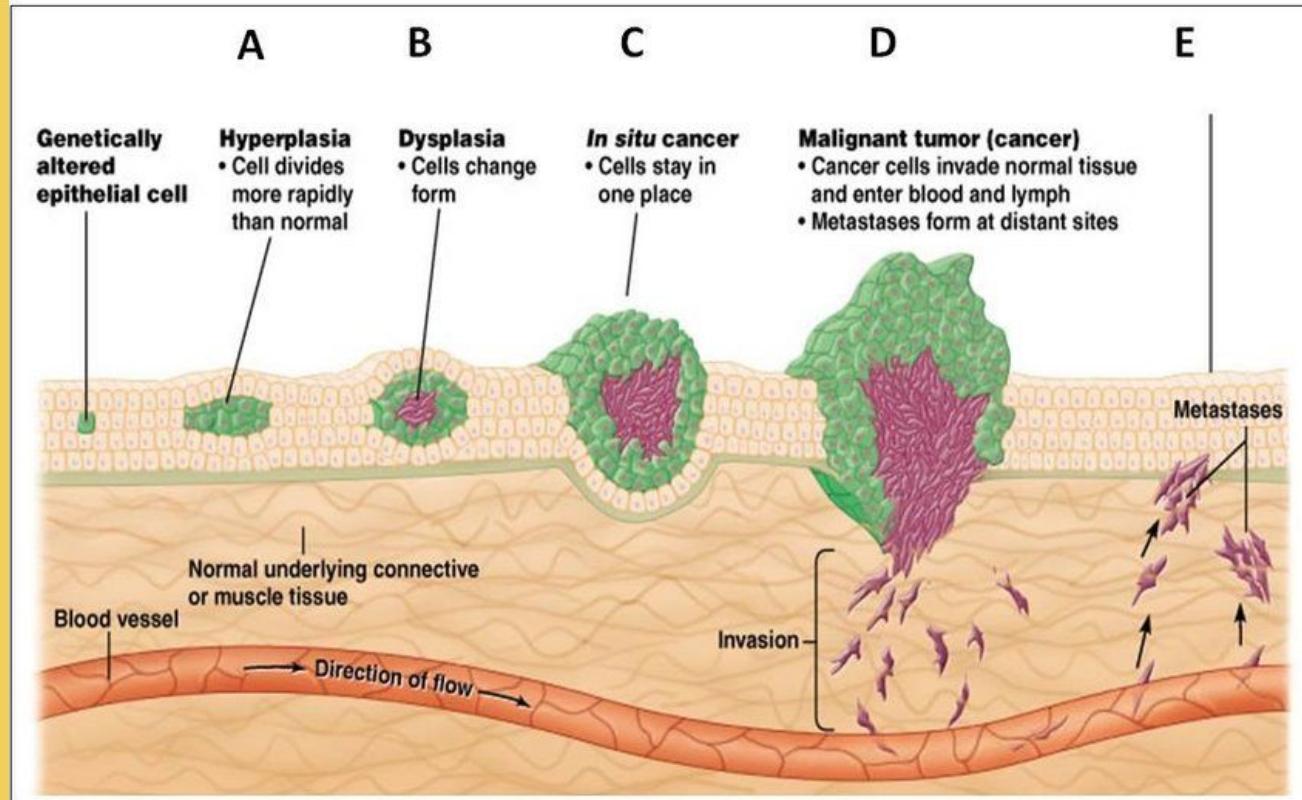
Metastasis- the tendency of a malignant tumor to shed off some of its cells. These cells then move to new locations in the body and further complicate the disease for the patient.

Stages of Cancer: 1 → 4

1 & 2: Contained within a region. The cancerous cells have not spread much. Early stage that is treatable with a fair amount of success.

3 & 4: Metastasized; the tumor has spread out to other organs or tissues within the patient and will continue to cause further complications.

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Basic Forms of Cancer

1. **Carcinoma**- a form of cancer that centers in the skin, lungs, breasts, pancreas or other organs or glands.
2. **Sarcoma**- this is a rare form of cancer found in the connective tissues of bones, muscles, tendons or cartilage. It is often confined to the arms or legs of the patient.
3. **Melanoma**- simply another term for skin cancer. Often detected early by the patient and hence treatable.
4. **Lymphoma**- starts within the lymph nodes, spleen or thymus of our immune system.
5. **Leukemia**- the blood borne version of cancer resulting in an increase of white blood cell activity, number or both. Essentially, this is your body's immune system attacking itself.