

Cancer

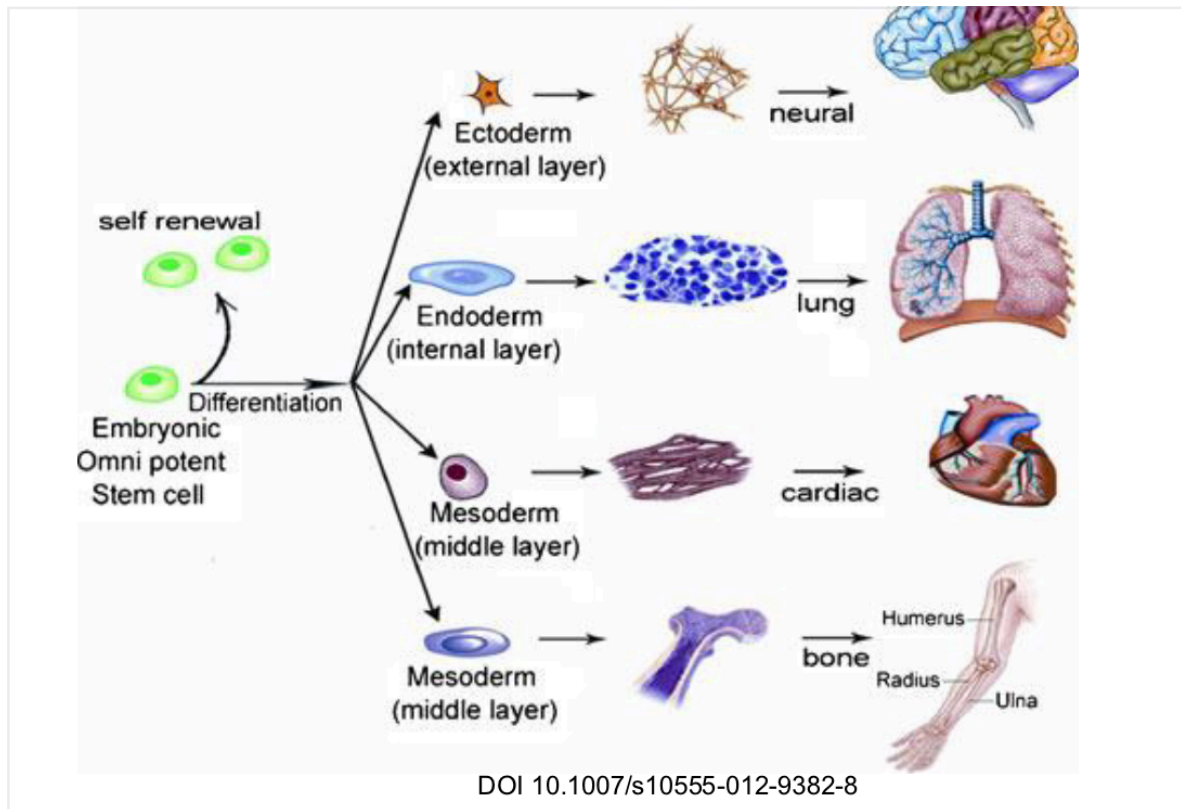
1. What is cancer? Cancer is a group of related diseases which cells grow without restriction. They don't even die when they are damaged, and spread into nearby sites or distant tissues and organs of the body through circulations. More than 100 different diseases are called cancer

2. What is metastasis? Metastasis is the **spread of cancer** from the place where it first developed (the *primary site*) to other parts of the body.

Benign Tumors	Malignant Tumor
They do not spread throughout the body	These tumor break through the tissue boundaries, invade and metastasize.

Benign brain tumors can be life threatening.	They are life-threatening because they can invade other organs impairing their functions
They are not cancerous. They grow only locally and cannot spread by invasion or metastasize	They also compete with healthy tissues for nutrients and oxygen

3. Where do cancer spread to? They spread to **Lung, Liver, Lymph Nodes, Bones, Brain, Skin**
4. Not all cancers spread to all organs. There is selectivity. Seed and soil hypothesis.



Ectoderm		Neural nerves	
Endoderm		Lungs	
Mesoderm		Cardiac muscles and bone marrow	
Carcinomas	Sarcomas	Blood cancer	Brain cancers

These are cancer of epithelial cells	Cancer of mesodermal cells. Derived from middle layer/ connective tissues known as sarcomas.	Caused from blood forming tissues including immune cells.	Non-epithelial tumors arise from cells of central and peripheral nervous system- neuroectodermal tumors
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	Ex bone, muscle, fat, cartilage	EX: leukemia, Lymphoma and multiple myeloma	Included are gliomas, glioblastomas, neuroblastoma, schwannomas and medulloblastomas
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		Blood forming cells: RBCs, WBCs, T (Thymus) and B(bone marrow) cells, Platelets	Comprises of 1.3% of diagnosed cancers but responsible for 2.5% of cancer deaths
Adenocarcinomas		Squamous cell carcinomas	
Cancers of tissues forming glands		Cancers of protective layers	
EX: Lung, Stomach, Uterus, Breast		EX: Skin, oral cavity	

5. Common tumors from epithelial cells are those of the GI tract- mouth, esophagus, stomach, small and large intestines, as well as of mammary gland, skin, pancreas, lung, liver, ovary,

uterus, prostate, gall bladder, and urinary bladder,

Leukemia	Lymphomas
Malignant derivatives of blood cells that move freely in circulation and are non pigmented	Tumors of lymphoid origin(T and B cells) that aggregate to form solid tumor masses frequently found in lymph nodes account for 7% cancer related mortality
Usually starts in bone marrow travels through blood stream	Originates in the lymph nodes or spleen

6. Lymphoma and leukemia are often called liquid cancers. They share common origin: lymphocytes or WBCs.
7. **Teratoma**: 'monster tumor' is a rare growth inside the human body that can have hair and teeth.

8. 2-4% of all tumors lose all the status of the tissue of origin. Tumors are called anaplastic. Anaplastic tumors are often categorized as the cancer of the unknown origin.