1 | Benign tumor

1.1 | a tumor that is not dangerous/cancerous

1.1.1 | not spreading or growing too fast

2 | Carcinogenesis

2.1 | causing a cancerous mutation

2.2 | typically an environmental compound

2.3 | TODO what does ionizing radiation have to do with this causing molecular level structural damage and thus cancer? question

3 | in situ cancer

3.1 | growing where it started (not moving)

3.2 | in contrast to metastatic cancer

4 | metastatic cancer

4.1 | cancer gains the ability to invade new tissues

5 | invasive cancer

5.1 | cancer that impacts the function of the organ or goes somewhere new

5.2 | a cancer can be invasive but not metastatic

6 | oncogenesis

6.1 | the creation of cancer (after the mutation)

7 | mutagenesis

7.1 | the mutation of a gene that might cause cancer

8 | protease

8.1 | a protien that eats other protiens

9 | caspase

9.1 | **a family of protiens that control cell death (apoptosis)**

10 | autophagy

10.1 | **the process by which a cell eats itself**

11 | blebbing

11.1 | **a cell that is eating itself creates ”waste vescicles”?**

12 | necrotic cells

12.1 | **explode and release tissue into the microenvironment, releasing inflammatory signals**

12.2 | **generally bad (does more damage than good?)**

12.3 | **worse than autophagy / apoptosis bc it might ”give other cells ideas”**

12.3.1 | **other programmed cell death types are ”clean”, in that they put everything in waste vescicles and etc**

13 | cell death

13.1 | **can be attributed to**

13.1.1 | **apoptosis**

13.1.2 | **necrothesis**

13.1.3 | **autophagy**

14 | karyotype

14.1 | **counting the number / appearence of chromosomes**

15 | angiogenesis

15.1 | **the creation of blood vessels**