

## CONCEPT: CANCER TREATMENTS

- There are many different types of cancer treatments

Therapy type	Function
<b>Traditional Therapies</b>	
Surgery	Remove the tumor
Radiation	Kill tumor by damaging DNA
Chemotherapy	Kill tumor by damaging DNA
<b>Immunotherapy</b>	
Passive	Uses antibodies against tumors to kill them
Active	Stimulates patients own immune system to kill the tumor
<b>Anti-angiogenic</b>	Destroys blood vessels that support tumor growth
<b>Molecular targeting</b>	Uses small molecules to target specific cancer causing genes

- Cancer cells can develop *resistance* against the \_\_\_\_\_
  - **Multidrug resistance** is when cancer cells exposed to one treatment, develop resistance to multiple treatments
    - *Mdr1* gene, which is an ABC Transporter, becomes amplified
    - The Mdr1 protein transports cancer killing chemicals out of the cell – making them insensitive

## EXAMPLE:

### PRACTICE:

1. Which of the following therapies targets cancer cells by introducing antibodies into the tumor?
  - a. Chemotherapy
  - b. Surgery
  - c. Passive immunotherapy
  - d. Anti-angiogenic drugs
2. Which of the following therapies targets cancer cells by destroying blood vessels that support tumor growth?
  - a. Chemotherapy
  - b. Surgery
  - c. Passive immunotherapy
  - d. Anti-angiogenic drugs