

What you need to know about: Bone Cancer

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Bone Cancer



- Bone cancer is cancer that arises first in the bone.
- True bone cancer is called osteosarcoma
- Bone is often a secondary site of metastases for other types of cancer such as prostate cancer, lung cancer, breast cancer, etc.

Risk Factors

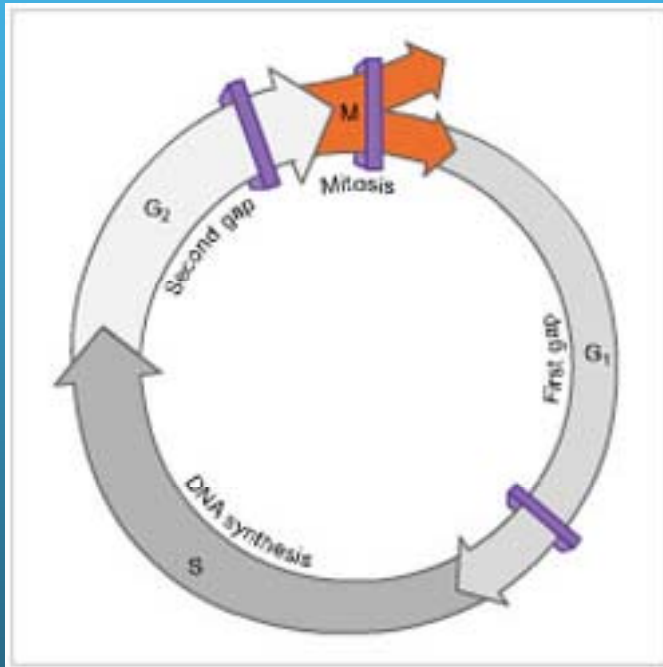
- The exact cause for bone cancer is not known, but there are many risk factors for the disease; some can be avoided while others can not.
- Risk factors include:
 - Smoking
 - Age
 - Race
 - Having other diseases such as retinoblastoma
 - Treatment with radiation

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decompressor
are needed to see this picture.

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Biology of Cancer

- Normal Cell Cycle



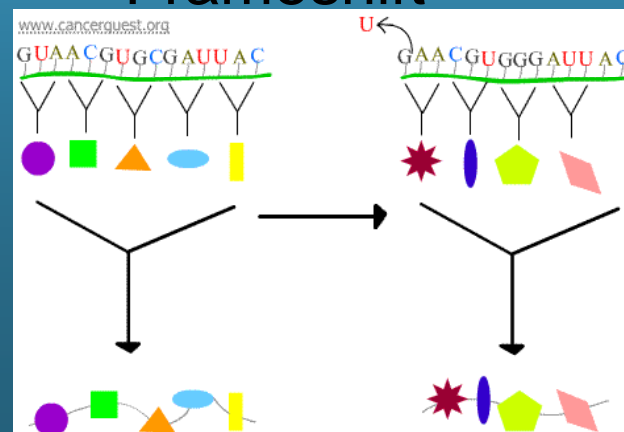
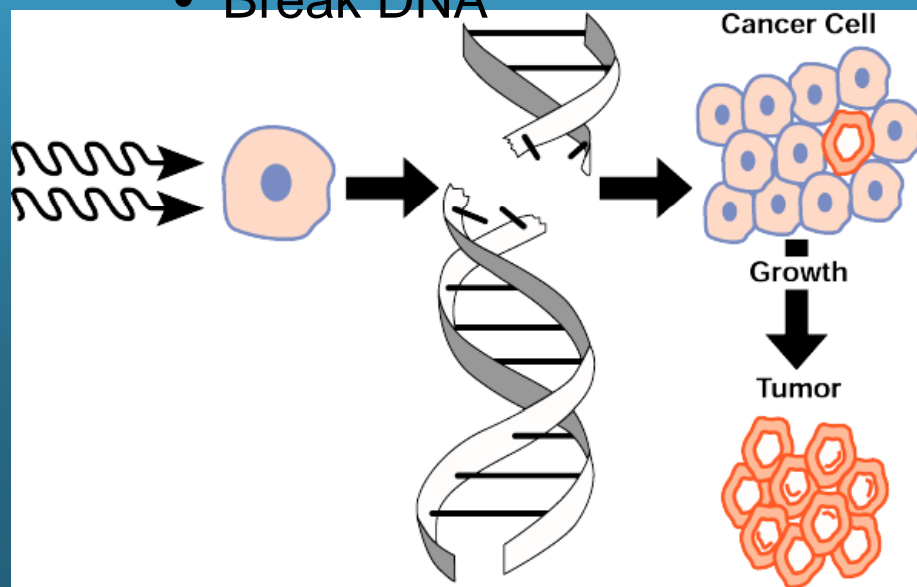
- Cancer Cell Cycle

- Divide without appropriate signals
- Can continue growing even though they are in contact with other cells
- Cells continue through the cell cycle without the “all clear” signal from the checkpoint regulators

DNA Damage

- One of the leading causes of bone cancer is radiation
 - Radiation results in:
 - Point mutations
 - Chromosomal damage
- Point mutations occur when bases in DNA are changed
 - There are different types of point mutations including:

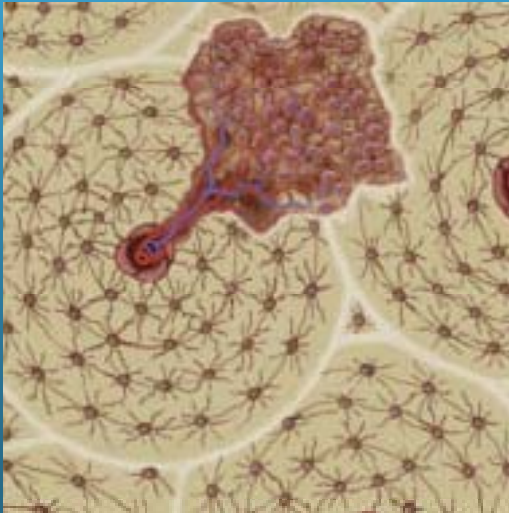
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Treatment

- Surgery

- Removes the tumor mass from initial location



- Radiation Therapy

- Uses high energy waves targeted to cancer growth
- Waves cause damage within the cell, disrupt cellular processes, prevent accurate cell division, and cause the cell to die
- Death of cells causes the tumor to shrink

Prevention

- There is way to truly prevent bone cancer
- General cancer preventions include:
 - Diets low in fat
 - Exercise
 - Eat lots of fruits and vegetables
 - Do not smoke
 - Limit consumption of alcoholic beverages
 - Limit UV radiation

