

Tumor Invasion and Metastasis

1. Identify and describe factors encouraging local spread of cancerous cells.
2. Describe the role of the following in the proposed sequence of events for tumor cell invasions of the extracellular matrix: tumor cell attachment to the basement membrane, degradation of the matrix, and locomotion into the matrix.
3. Describe the main avenues for metastatic spread: direct tumor extension, lymphatic spread, and hematogenous spread.
4. Describe the process of angiogenesis.
5. Describe the role of the p53 gene in the metastatic spread of cells.
6. Identify factors that may determine organ tropism.
7. Describe the common clinical manifestations of cancer: anemia, infection, paraneoplastic syndromes, cachexia, fatigue, and pain.
8. Compare the modalities for the treatment of cancer: chemotherapy, surgery, radiation, and immunotherapy.

Cancer in Children

1. Compare childhood neoplasms to adult cancers: environmental vs. genetic influences, cure success rate, common cancers, incidence rates, and response to treatment.