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# HMX Pro Genetics - Cancer Genomics and Precision Oncology

Growing knowledge of human genetics is changing the way physicians and researchers approach diagnosis of cancer risk as well as treatment of various types of cancer. This course offers a unique way for professionals to learn about key cancer genetics concepts and cutting-edge clinical applications from leading Harvard Medical School faculty. Participants will:

- Understand the links between genetics and cancer
- Get an inside look at tumor sequencing approaches and analysis
- Learn how genomics knowledge is advancing precision cancer treatments

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## Topics Covered

### Overview of Cancer Genomics

- What is Cancer?
- The Promise of Precision Oncology

- Clinical Linkage: Clinical Trials for GIST
- Interactive: Molecularly Targeted Treatments

### The Genetics of Cancer

- Germline and Somatic Mutations
- Cancer as a Genetic Disease
- Cancer Mutations
- Cancer Progression
- The Hallmarks of Cancer
- Cancer Gene Functions
- Clinical Linkage: The Genetics of Gastrointestinal Stromal Tumors (GIST)
- Interactive: Cancer Pathways

### Wrap-up

- The Future of Precision Oncology

### Cancer Genomics and Tumor Sequencing

- Sequencing Sample Types
- Sequencing Approaches
- Sequencing Analysis
- Variant Allele Frequency
- Interpreting Variation
- Mutational Signatures
- Clinical Linkage: Tumor Sequencing
- Interactive: Cancer Mutations

### Precision Oncology

- Cancer Therapeutics
- Kinase Inhibitors
- Monoclonal Antibody Treatments
- Active Immunotherapies
- Drug Resistance

The HMX Pro Series offers a new online learning experience designed to get busy professionals up to speed on the latest advances in medicine. Concepts are taught using whiteboard-style videos and animations and reinforced by interactive elements, true-to-life scenarios, and real patient cases to enhance learning.