Genetics provides a basis for new medical treatments.
Genetic screening can detect genetic disorders.

- Genetic screening involves the testing of DNA.
  - determines risk of having or passing on a genetic disorder
  - used to detect specific genes or proteins
  - can detect some genes related to an increased risk of cancer
  - can detect some genes known to cause genetic disorders
Gene therapy is the replacement of faulty genes.

- Gene therapy replaces defective or missing genes, or adds new genes, to treat a disease.
• Several experimental techniques are used for gene therapy.
  – genetically engineered viruses used to “infect” a patient’s cells
  – insert gene to stimulate immune system to attack cancer cells
  – insert “suicide” genes into cancer cells that activate a drug
• Gene therapy has many technical challenges.
  – inserting gene into correct cells
  – controlling gene expression
  – determining effect on other genes