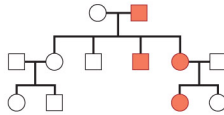
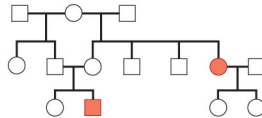


A Autosomal dominant



B Autosomal recessive



C X-linked recessive

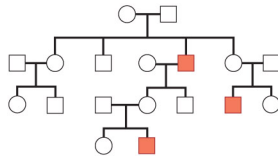


FIGURE 26.1. Typical patterns of inheritance for rare diseases caused by single alleles. *Circles*: females; *squares*: males; *red symbols*: affected. (A) Autosomal dominant: Affected individuals must have an affected parent; when one parent is affected, half of its offspring will be affected. (B) Autosomal recessive: Affected individuals typically have two heterozygous parents, each with normal phenotype; one-quarter of offspring from such matings are affected. Offspring from matings between relatives (e.g., at left) are much more likely to be affected, because they may inherit the disease allele from both their mother and their father (see Box 15.3). (C) X-linked recessive: Heterozygous mothers (e.g., top left) are normal, but one-half of their sons inherit the disease allele on their single X chromosome and are affected. Sons of affected males are not affected, but their daughters are all heterozygous, and so one-half of their grandsons are affected (e.g., bottom row).