



FIGURE 7.20. Transduction. (A) A phage infects a bacterium. (B) The phage induces the host to synthesize multiple copies of the phage genome and structure components. (C) Multiple phage are created with DNA inside the phage head. One phage (red) has picked up a portion of the host genome, including an antibiotic resistance gene, A^+ . (D) The A^+ phage infects an A^- bacterium. (E) The phage DNA and part of the chromosome are homologous, which enables recombination to occur (i.e., transduction). (F) This recipient has converted to A^+ . Phage transduction occurs most often within a species but can also facilitate DNA exchange between distantly related species.

7.20, adapted from Collignon P.J., *Med. J. Australia* 177: 325–329, © 2002 Australasian Medical Publishing Co.