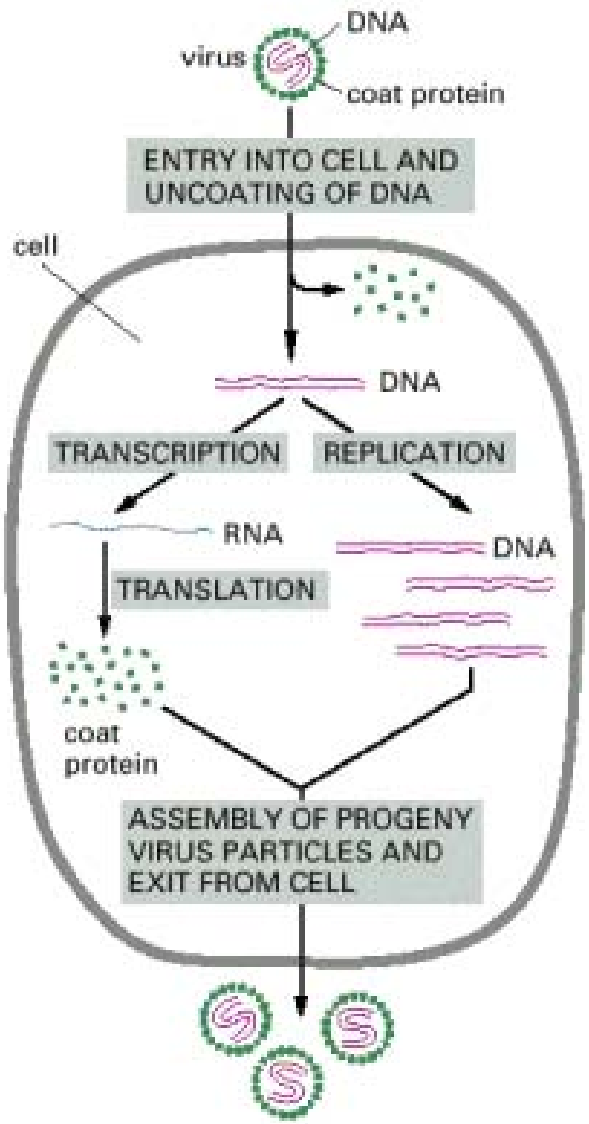
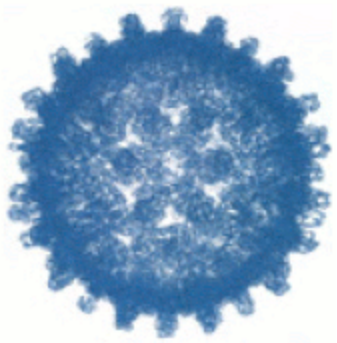


Figure 25-11

. **A simple viral life cycle**

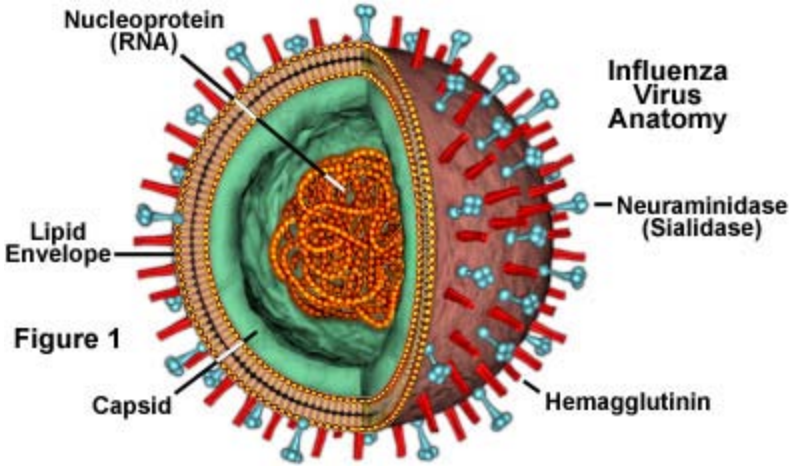
The hypothetical virus shown consists of a small double-stranded DNA molecule that codes for only a single viral capsid protein. No known virus is this simple.

Electron density around the HBV capsid



Acta Cryst. (2007). F63, 642–647

The Influenza (Flu) Virus



http://micro.magnet.fsu.edu/cells/viruses/influenzavirus.html

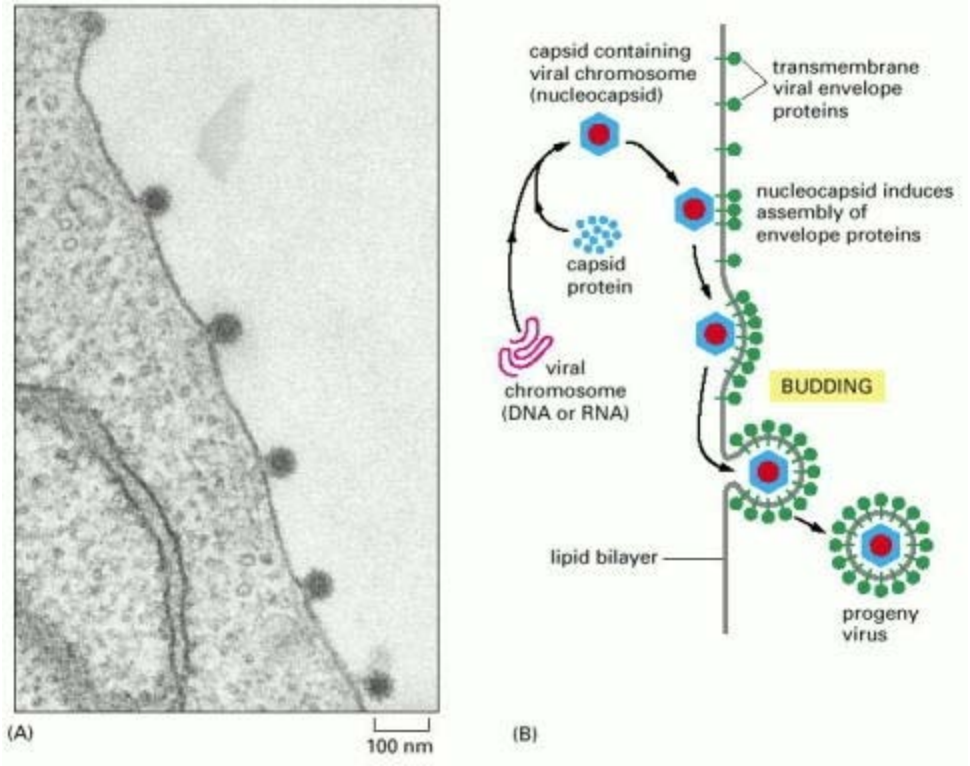


Figure 25-14
. **Acquisition of a viral envelope**
(A) Electron micrograph of an animal cell from which six copies of an enveloped virus (*Semliki forest virus*) are budding. (B) Schematic view of the envelope assembly and budding processes. The lipid bilayer that surrounds the viral capsid is derived directly from the plasma membrane of the host cell. In contrast, the proteins in this lipid bilayer (shown in *green*) are encoded by the viral genome. (A, courtesy of M. Olsen and G. Griffith.)

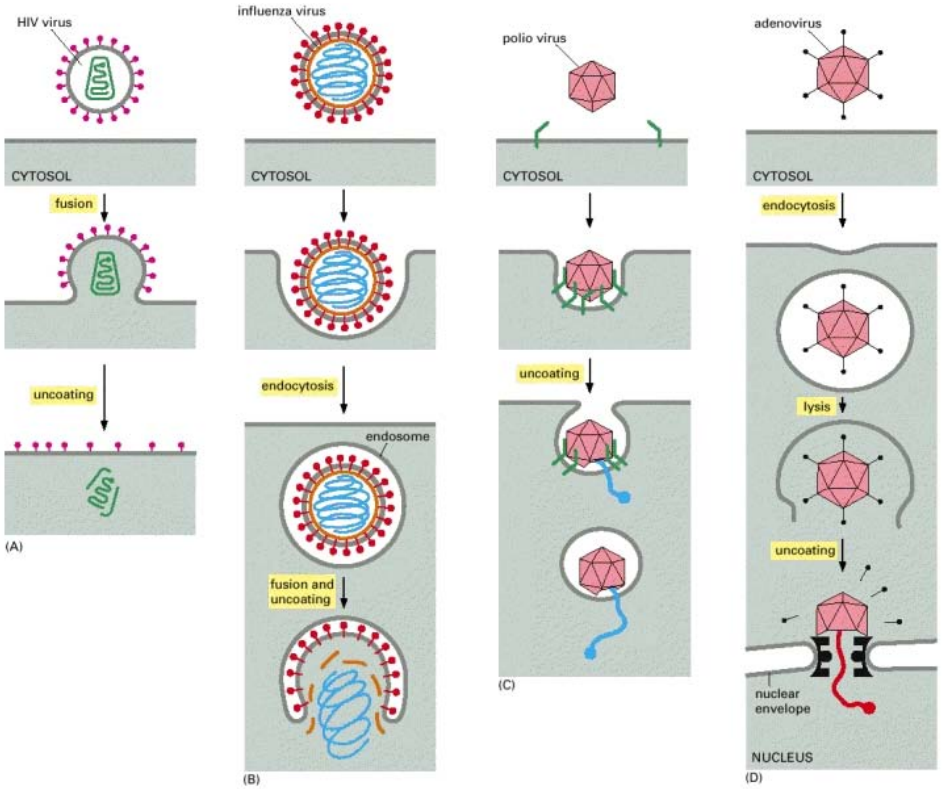


Figure 25-22

. **Four virus uncoating strategies**

(A) Some enveloped viruses, such as HIV, fuse directly with the host cell plasma membrane to release their capsid *(green)* into the cytosol. (B) Other enveloped viruses, such as influenza virus, first bind to cell-surface receptors, triggering receptor-mediated endocytosis. When the endosome acidifies, the virus envelope fuses with the endosomal membrane, releasing the nucleocapsid *(blue)* into the cytosol. (C) Poliovirus, a nonenveloped virus, binds to a receptor *(green)* on the host cell surface and then forms a pore in the host cell membrane to extrude its RNA genome *(blue).* (D) Adenovirus, another nonenveloped virus, uses a more complicated strategy. It induces receptor-mediated endocytosis and then disrupts the endosomal membrane, releasing part of the capsid into the cytosol. The capsid eventually docks onto a nuclear pore and releases its DNA genome *(red)* directly into the nucleus.