

# Virology

## Viral structure & classification

### \* Characteristics of viruses:

① Smallest organism.

10-250 nm < 2000-3000 nm < 10-30 μm  
 Virus                      Bacteria                      Human cell

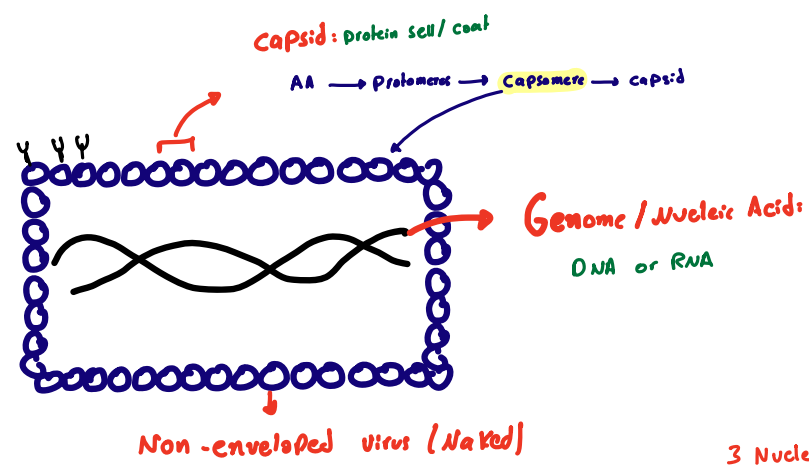
∴ Human cells 100-1000 times larger  
 so, we need Electron microscope to see it.

② Obligate Intra cellular:

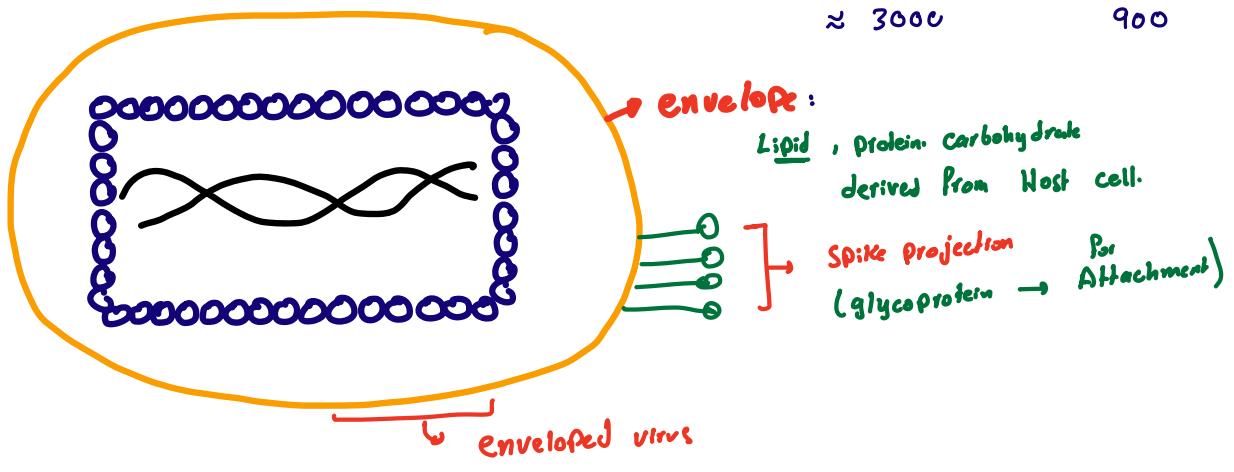
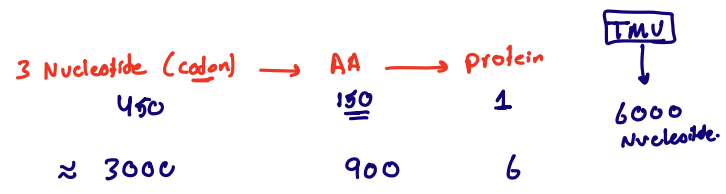
③ Genetic material:

Can be DNA or RNA.

### \* Structure of viruses

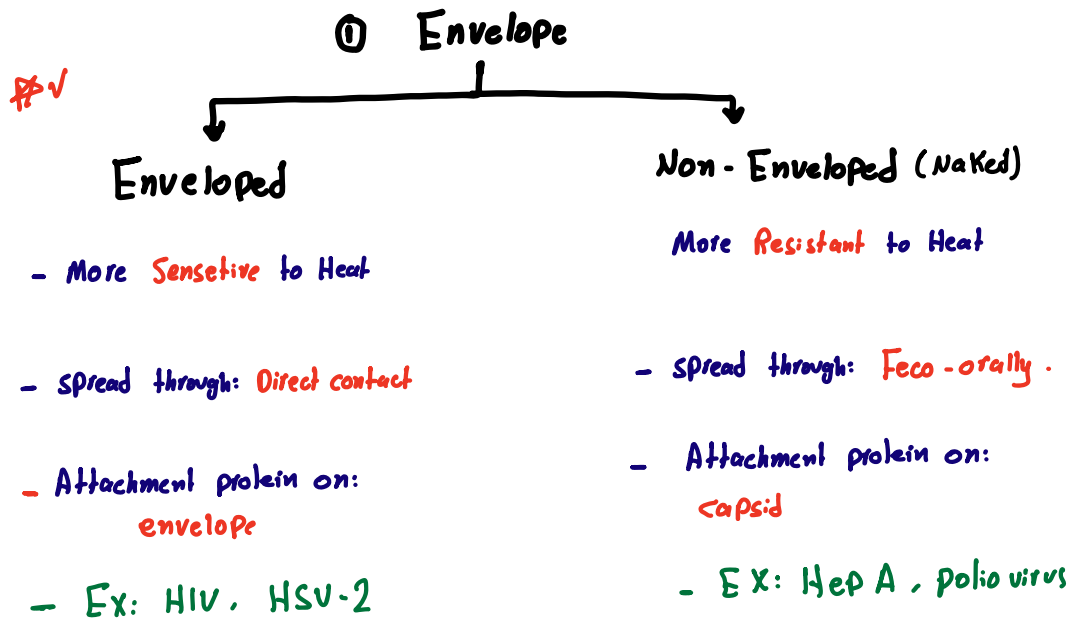


Few types of capsomer? Maximum efficiency of viral genome

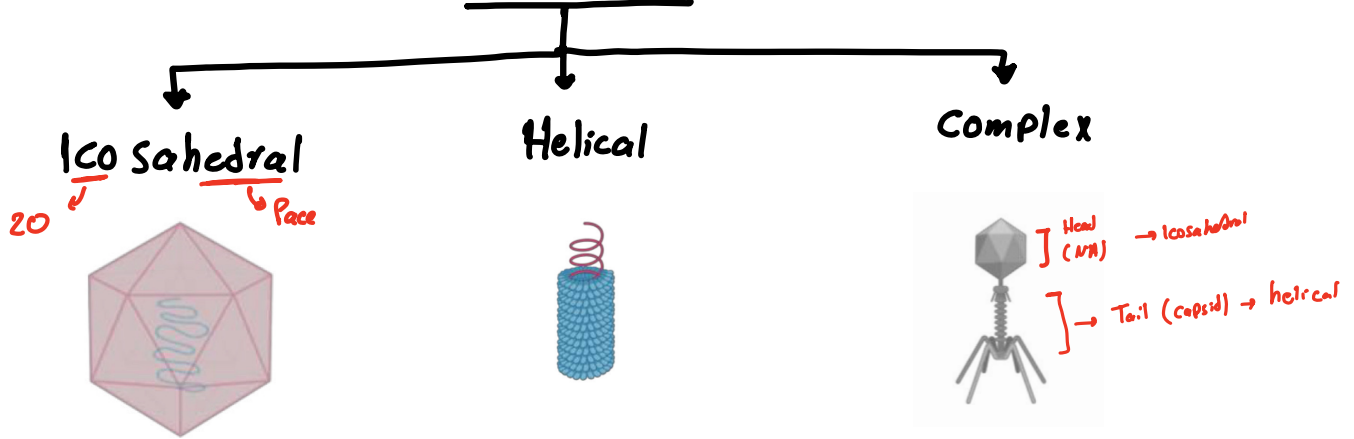


# \* Virus classification:

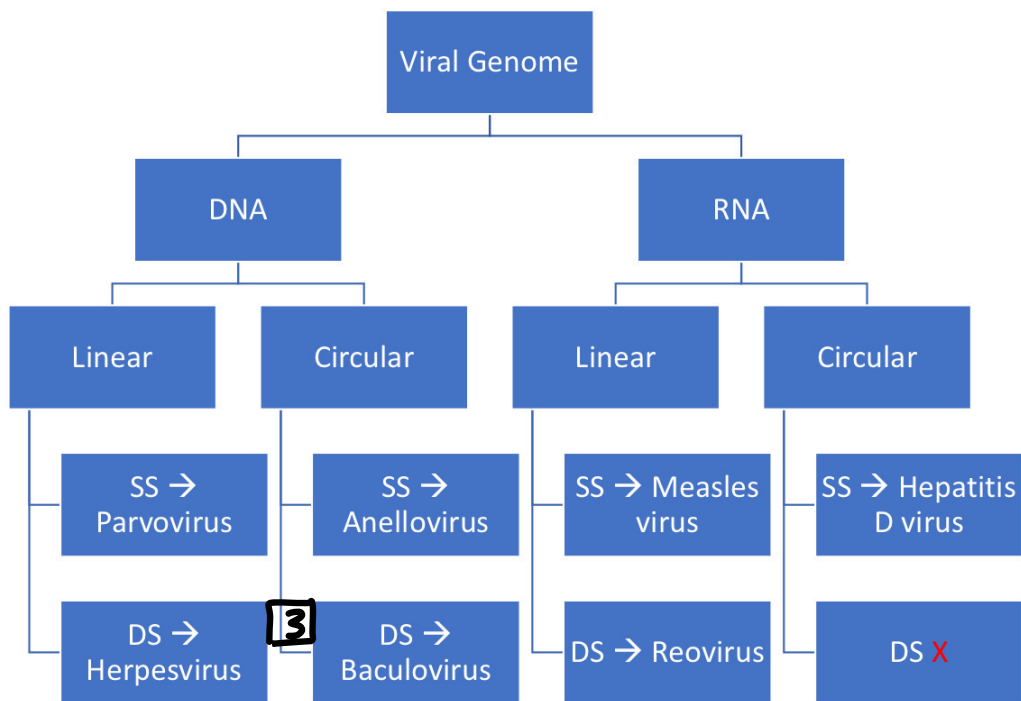
Based on: ① envelope ② capsid shape ③ Type of Nucleic Acid.



## ② Capsid shape:



\* Combination of Both Helical & Icosahedral  
 \* Head & tail shape  
 Ex: Bacteriophage.



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\* There is no **DS RNA circular viruses**

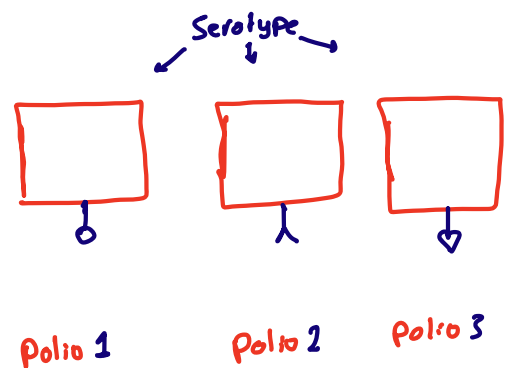
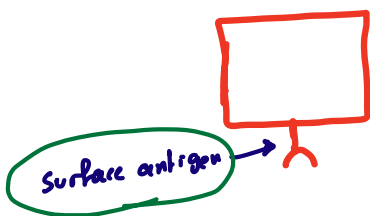
- **RNA viruses** have more mutations than **DNA viruses**.

DNA → RNA → protein  
 RNA → protein

- **Influenza virus genome** is **segmental**.

\* Serotypes:

\* Subdivision of a virus with **unique antigen**.



Vaccin should include All serotypes.