

- **Valacyclovir has better bioavailability** than acyclovir. [please correct this information in the summary]
- Uninfected cells don't phosphorylate acyclovir.
- **Neuroaminidase inhibitors** [Zanamavir and Oseltamivir] do not interfere with immune response to influenza A vaccine.
- **Vidarabine**
The drug is converted to its triphosphate analog which inhibits viral DNA-polymerase.
- **Neuraminidase inhibitors** prevent the release of new virions and their spread from cell to cell.
- **Ribavirin**
 1. Requires phosphorylation to mono-, di-and triphosphate
 2. Triphosphate inhibits RNA polymerase and depletes cellular stores of guanine (inhibit IMDH)
 3. Decrease synthesis of mRNA 5' cap (interfere with guanylation and methylation of nucleic acid base)
- **Therapeutic uses Ribavirin**
 4. **Ribavirin is the drug of choice for:**
RSV bronchiolitis and pneumonia in hospitalized children (given by aerosol)
Lassa fever
 5. **Ribavirin is an alternative drug for:**
Influenza, parainfluenza, measles virus infection in immunocompromised patients.
- **Antiretroviral Drugs**
 1. HAART -Highly active antiretroviral therapy
 2. Includes at least three medications –“cocktails”
 3. These medications work in different ways to reduce the viral load
- NNRTIs: are highly prone to drug resistance
- **Entry inhibitor CCR5 receptor antagonist NOT agonists.** [please correct this information in the summary]
- Remember that: [written in the 5th page in the summary just to make it clearer]
- **Induction** of the following enzymes:
 1. a protein kinase which inhibits protein synthesis
 2. an oligo-adenylatesynthase which leads to degradation of viral mRNA
 3. a phosphodiesterase which inhibits t-RNA
- **Therapeutic uses Interferons** [Only the info between the brackets weren't written in the summary]
 1. Chronic hepatitis B and C (complete disappearance is seen in 30%).
 2. HZV infection in cancer patients (to prevent the dissemination of the infection)
 3. CMV infections in renal transplant patients
 4. Condylomata acuminata (given by intralesional injection). Complete clearance is seen ~ 50%.
 5. Hairy cell leukemia (in combination with zidovudine)
 6. AIDS related Kaposi's sarcoma
- Please study the following drugs [Gancyclovir & Cidofovir] from this table not from the one in the summary

Drug	Administration	Adverse effect	Therapeutic use	Notes
Gancyclovir	-	Adverse effects of Acyclovir / Gancyclovir •Nausea, vomiting and diarrhea •Nephrotoxicity-crystalluria, haematuria, renal insufficiency •Myelosuppression– Neutropenia and thrombocytopenia –Gancyclovir	•CMV retinitis in immunocompromised patient •Prevention of CMV disease in transplant patients	
Cidofovir	IV, Intravitreal injection, topical	Nephrotoxicity	CMV retinitis in immunocompromised patients and Adenovirus infections	–no phosphorylation required. •It inhibits viral DNA synthesis

- Don't forget to check these slides, in the first one you can see some antiviral drugs inhibiting specific steps in the viral replication, and in the second one the mechanism of action of Acyclovir and related compounds.

