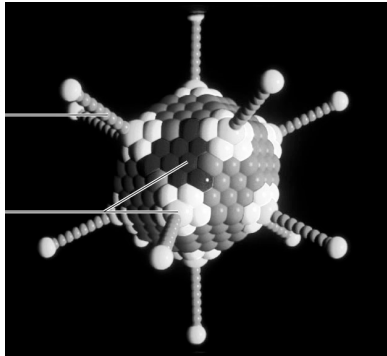


Adenovirus

Penton Fiber
What might be its function ??

What are these components?



Virus Infections

Types of Infections

- Acute
- Persistent
- Recurrent
- Latent
- Oncogenic

Virus Infections

Types of Infections

Example

- | | |
|------------|---------------------------|
| Acute | Influenza, Rotavirus, WNV |
| Persistent | |
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Virus Infections

Types of Infections

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Virus Infections

Types of Infections

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Virus Infections

Types of Infections

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| Acute | Influenza, Rotavirus, WNV |
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Virus Infections

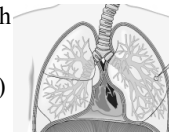
Types of Infections	Example
Acute	Influenza, Rotavirus, WNV
Persistent	HIV, con-Rubella
Recurrent	Herpes simplex (Cold sores)
Latent	Varicella Zoster (Chickenpox)
Oncogenic	Human Papilloma virus

Viral Mechanisms of Disease

Acute Infection

The cytopathic effect = cell death

Influenza
(fever, cough, aches and pain)



- Transmitted by aerosol
- Infects and kills airway epithelial cells
- May lead to secondary bacterial pneumonia

Viral Mechanisms of Disease

Acute Infection

The cytopathic effect = cell death

Rotavirus (diarrhea)

- Transmitted through food and water
- Infects and kills intestinal epithelial cells
- May lead to dehydration and death

Viral Mechanisms of Disease

Recurrent infection

The cytopathic effect = cell death
or = none!

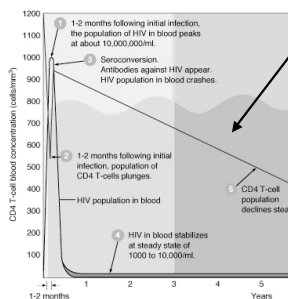
Herpes simplex virus (cold sore)



- Transmitted by direct contact
- Infects and kills epithelial (skin) cells
- Enters neurons, becomes dormant
= *No cytopathic effect*
- Re-occurs at original site by
“reactivation” from neurons

Viral Mechanisms of Disease

Persistent Infection: HIV



Regenerating cells become infected.....
Eventually causing the cell population.....
to become exhausted.

Viral Mechanisms of Disease

Persistent Infection: congenital Rubella
(Rubella = German measles)

When acquired before birth, (**HOW?**)
Rubella virus is continuously produced
for life in the host (**WHY?**)

Viral Mechanisms of Disease

Persistent Infection: congenital Rubella
(Rubella = German measles)

When acquired before birth, (**HOW?**)
Crosses the placenta in non-immune women!

Rubella virus is continuously produced
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Viral Mechanisms of Disease

Persistent Infection: congenital Rubella
(Rubella = German measles)

When acquired before birth, (**HOW?**)
Crosses the placenta in non-immune women!

Rubella virus is continuously produced
for life in the host (**WHY?**)
***The infant in immunologically tolerant
and no immune response is mounted!***

Viral Mechanisms of Disease

The cytopathic effect = cell transformation

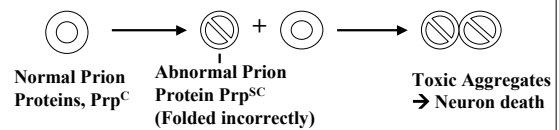
Oncogenic Infection: HPV
Human Papilloma virus and cervical cancer

Virus → epithelial cell, genital tract
→ virus stimulates cell to grow
→ “wart” forms (high frequency)
→ cell undergoes “transformation”
→ cervical carcinoma (low frequency)

Viral Mechanisms of Disease

Prions: “Infectious protein”

Mad Cow Disease =
Bovine Spongiform Encephalopathy



The abnormal prion protein converts the normal one