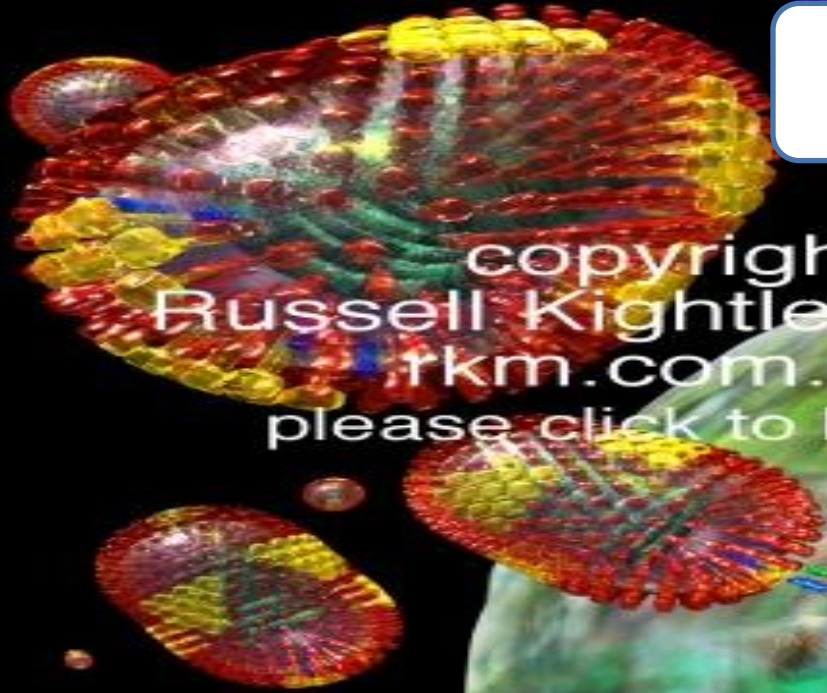




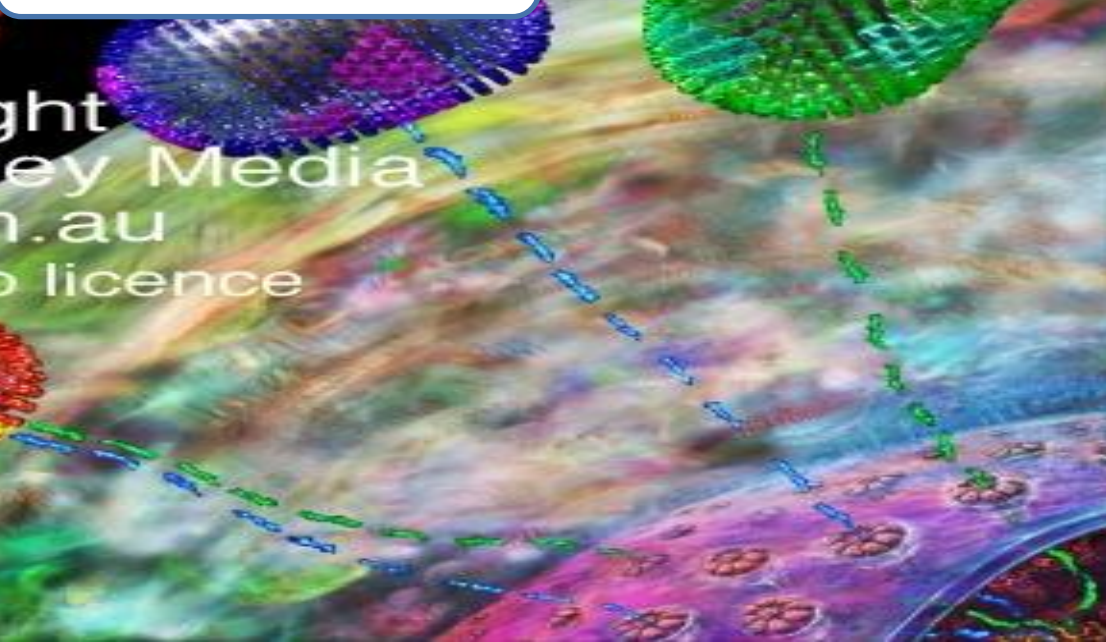
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INFLUENZA



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INTRODUCTION

Genus- Influenza virus

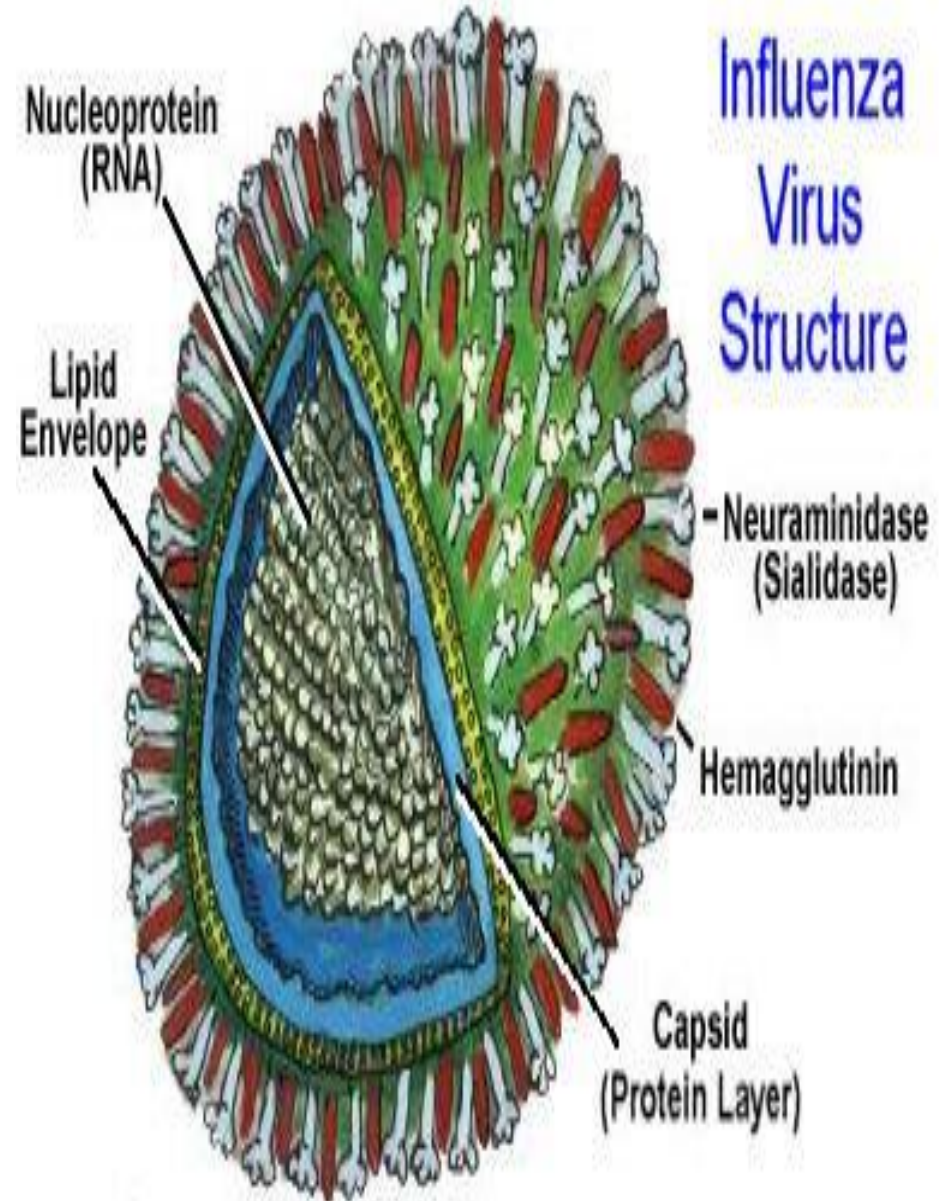
Family- Orthomyxoviridae

Diameter- 100-200 nm

Helical, enveloped and SS RNA viruses

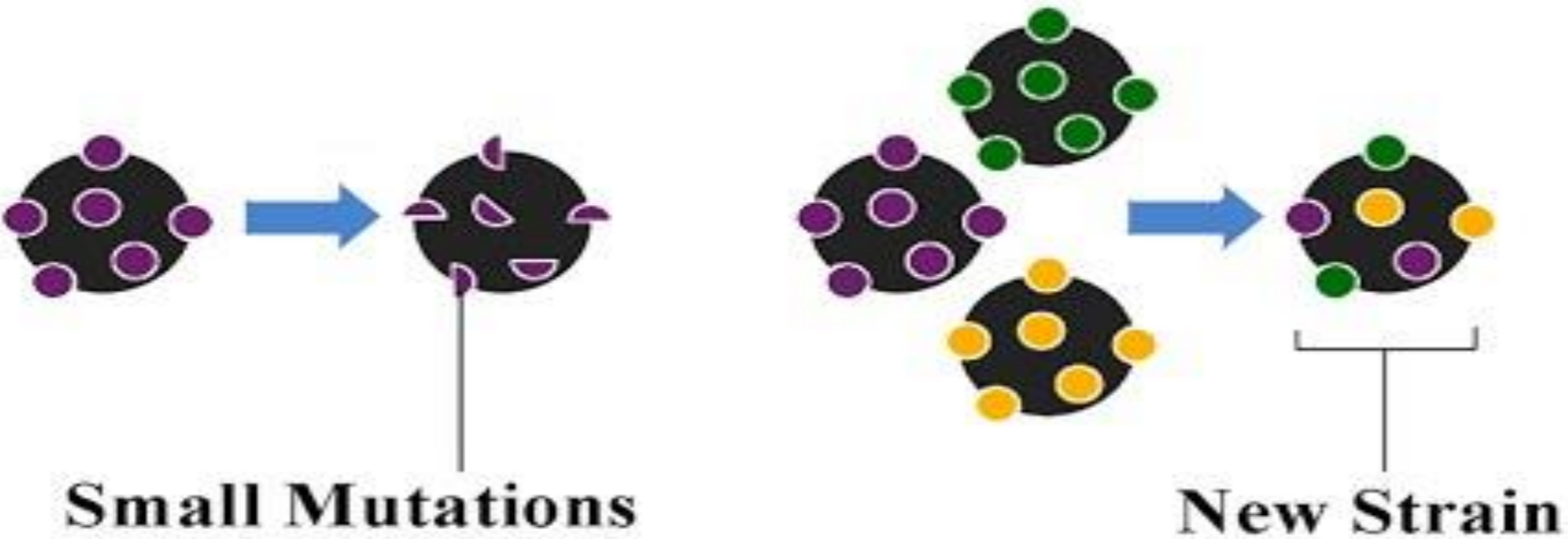
The hemagglutinin[HA] and neuraminidase[NA] proteins are shown on the surface of the particle.

In March 2013, the Chinese government reported three cases of H7N9 influenza infections in humans.



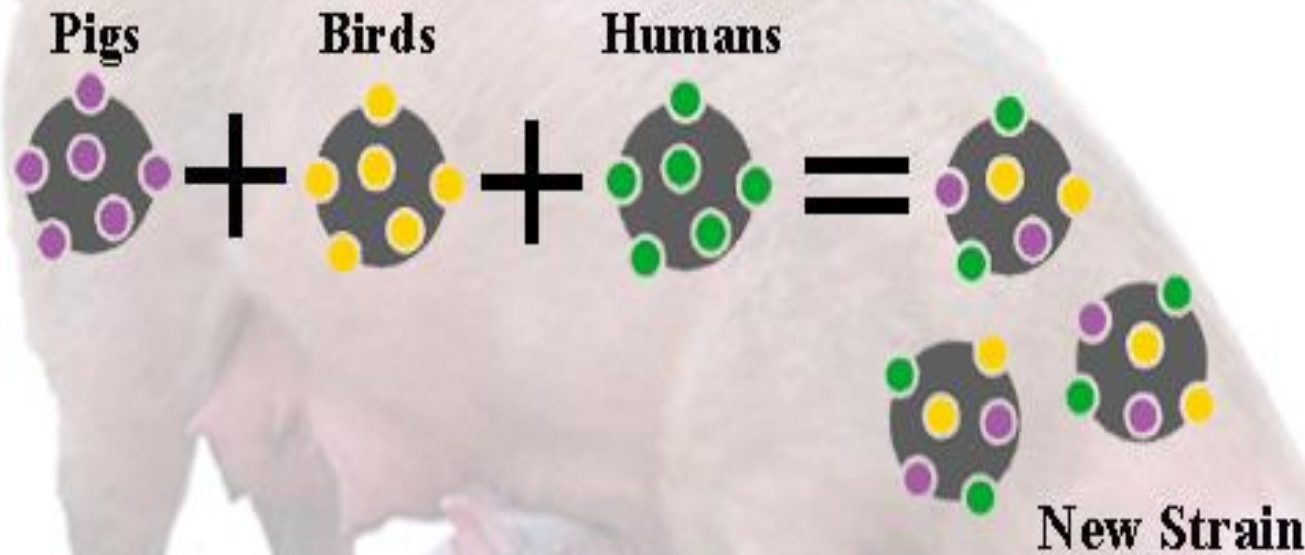
- Major antigenic changes (antigenic shift) and continuous minor variations (antigenic drift) are features of the virus.

Antigenic **shift** & **drift**

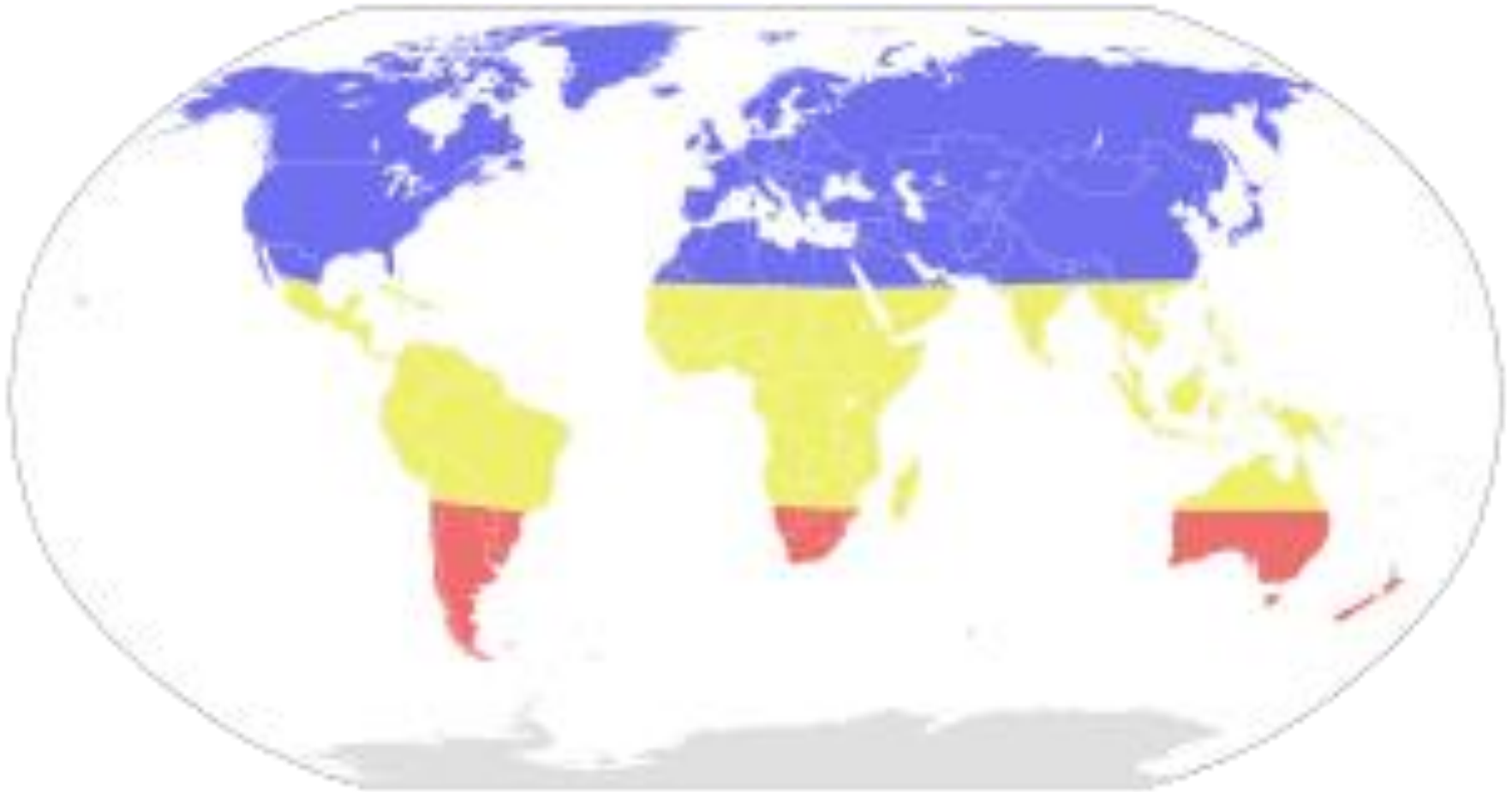


Antigenics shift in pigs

Flu viruses containing
genetic material from:

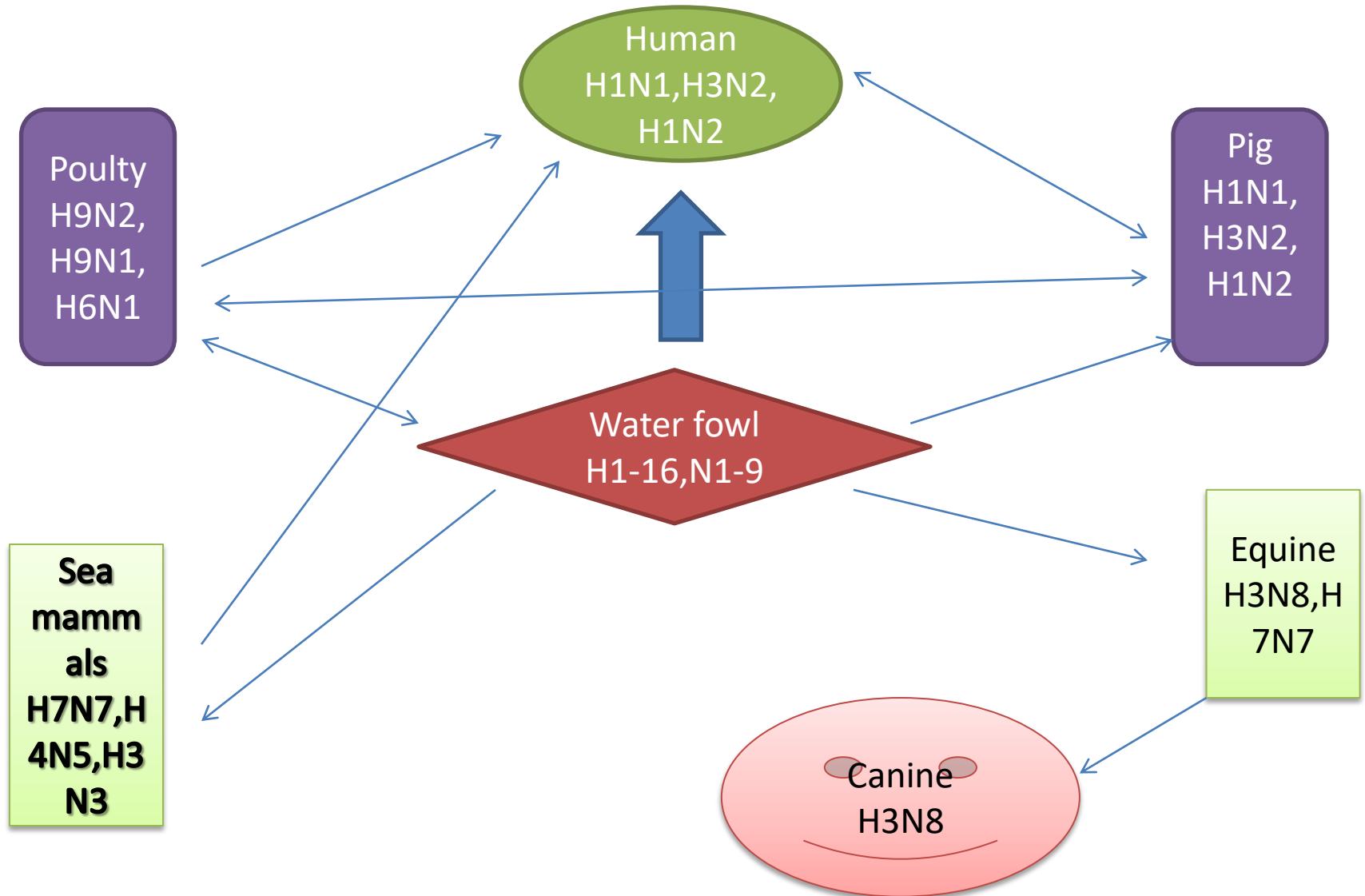


EPIDEMIOLOGY



November-April (blue)
April-November (red)
Year-round (yellow)

INFLUENZA STRAIN



The WHO declared an outbreak of a new type of Influenza A / H1N1 to be a pandemic in June of 2009

RESISTANCE

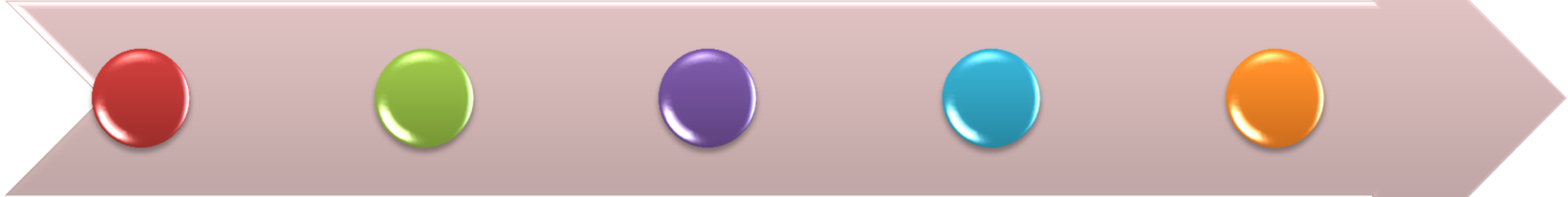
The virus is inactivated by heating at 50 C for 30 minutes. It remains viable at 0 – 4C for about a week.



The virus surviving for one to two days on hard, non-porous surfaces such as plastic or metal.



And only five minutes on skin



The virus survives also drying and may remain viable on fomites such as blankets for about 2 weeks.

For about 15 minutes from dry paper



TRANSMISSION



When an infected person sneezes mucus directly into the eyes, nose or mouth of another person

1. By direct transmission

2. Air borne route

Inhales the aerosol produced by an infected person coughing, sneezing or spitting



Through hand-to-eye, hand-to-nose, or hand-to-mouth transmission such as a handshake

3. Direct personl contact

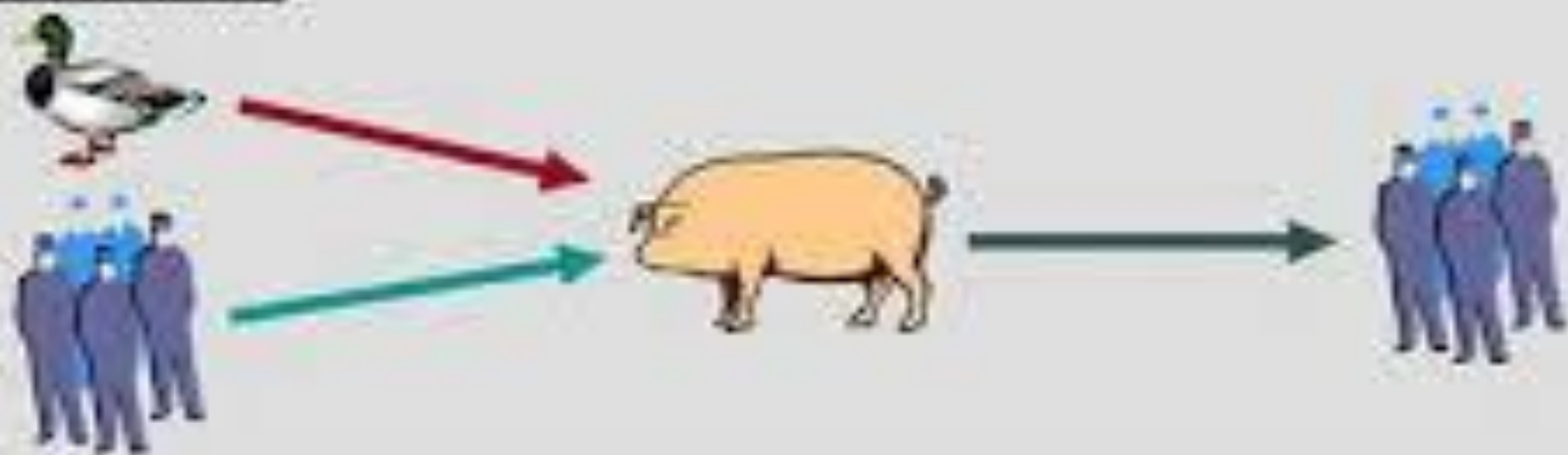
Direct Transmission



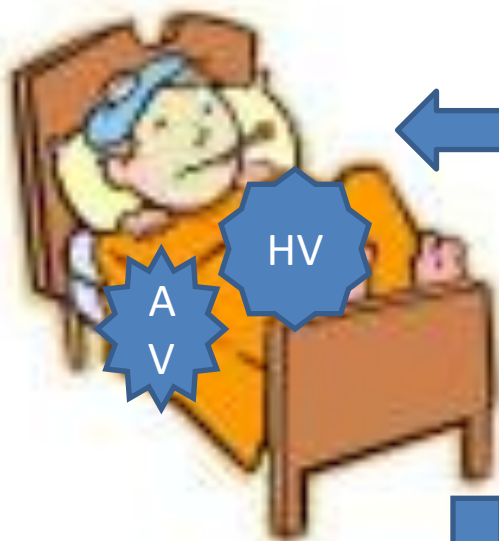
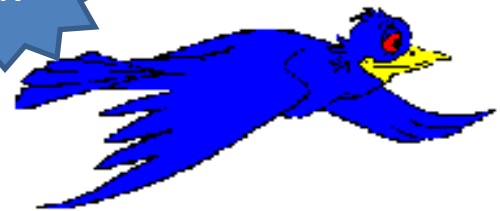
Adaptation



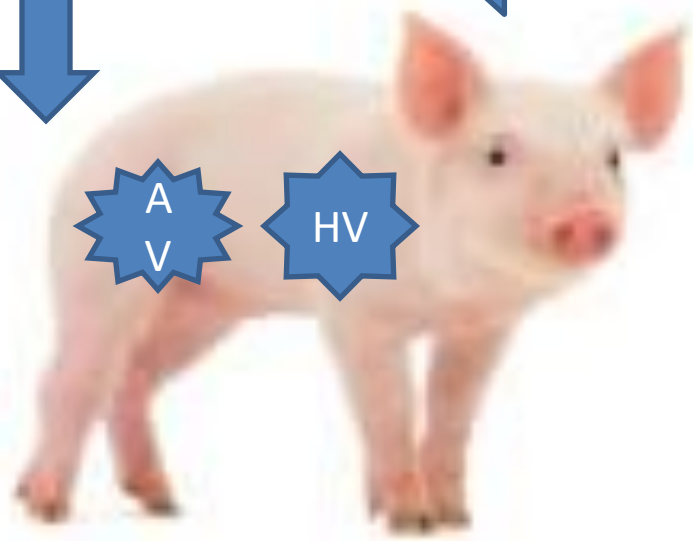
Reassortment



Avian virus



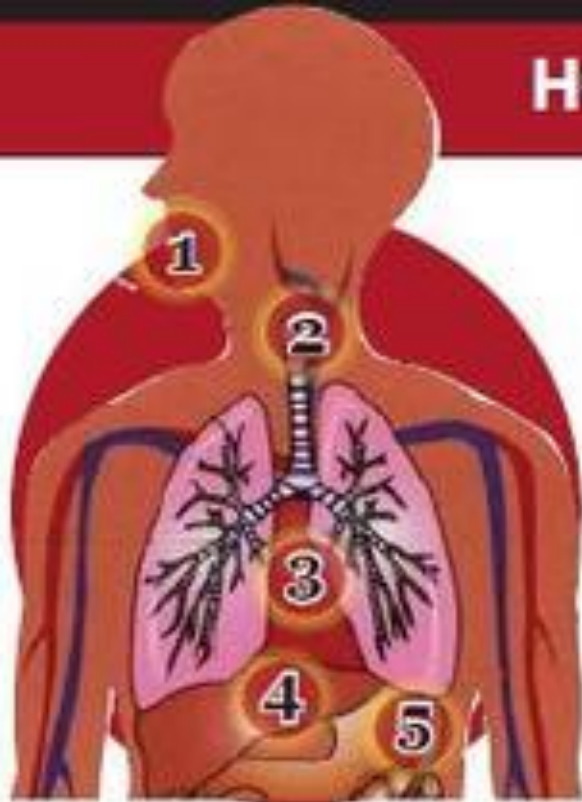
Reassortment in human



Reassortment in swine



HOW THE VIRUS WORKS



Influenza is a highly contagious virus and a pandemic flu could affect up to half the population

1

The virus enters body through mouth or nose

2

The virus moves into airways and lungs

5

But if too many cells in the lungs are destroyed, the patient will die

4

Patient's immune system starts to hunt out and clear the virus from the body, leading to recovery

3

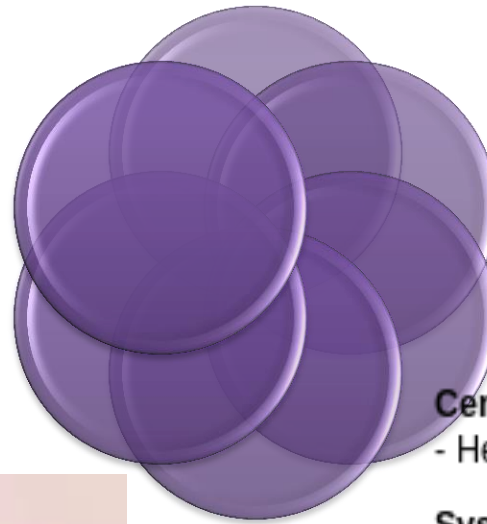
It attacks cells that line the respiratory tract, replicating itself inside each cell until the cell dies, releasing more of the virus into the body

SIGN & SYMPTOMS IN ADULT

Body temperatures
ranging from 38 to 39 C
[100 to 103f]

Irritated, Watery
eyes, Reddened
eyes, skin, mouth, throat
& nose

Fever and extreme
coldness (chills
shivering)



Symptoms of Influenza

Central
- Headache

Systemic
- Fever
(usually high)

Muscular
- (Extreme)
tiredness

Joints
- Aches

Nasopharynx
- Runny or stuffy
nose
- Sore throat
- Aches

Respiratory
- Coughing

Gastric
- Vomiting



INFLUENZA IN CHILDREN



Incubation period is 1-3 days.



Abdominal pain and vomiting may occur, especially in type B infection in children.



Influenza, particularly infection with type B, has been associated with 'Reye syndrome'.



Degenerative changes in the brain, liver and kidneys.



Cause Gastrointestinal symptoms.



PREVENTION



Hand washing,
covering coughs &
sneezes

Not touching your eyes, nose or
mouth

Avoiding close contact with swine
and birds



Reduce the time
spent in crowded ,
Improve airflow
in your living
space by opening
windows.

Use of face masks , Alcohol is an
effective sanitizer against influenza
viruses

CONTROL



Physically active



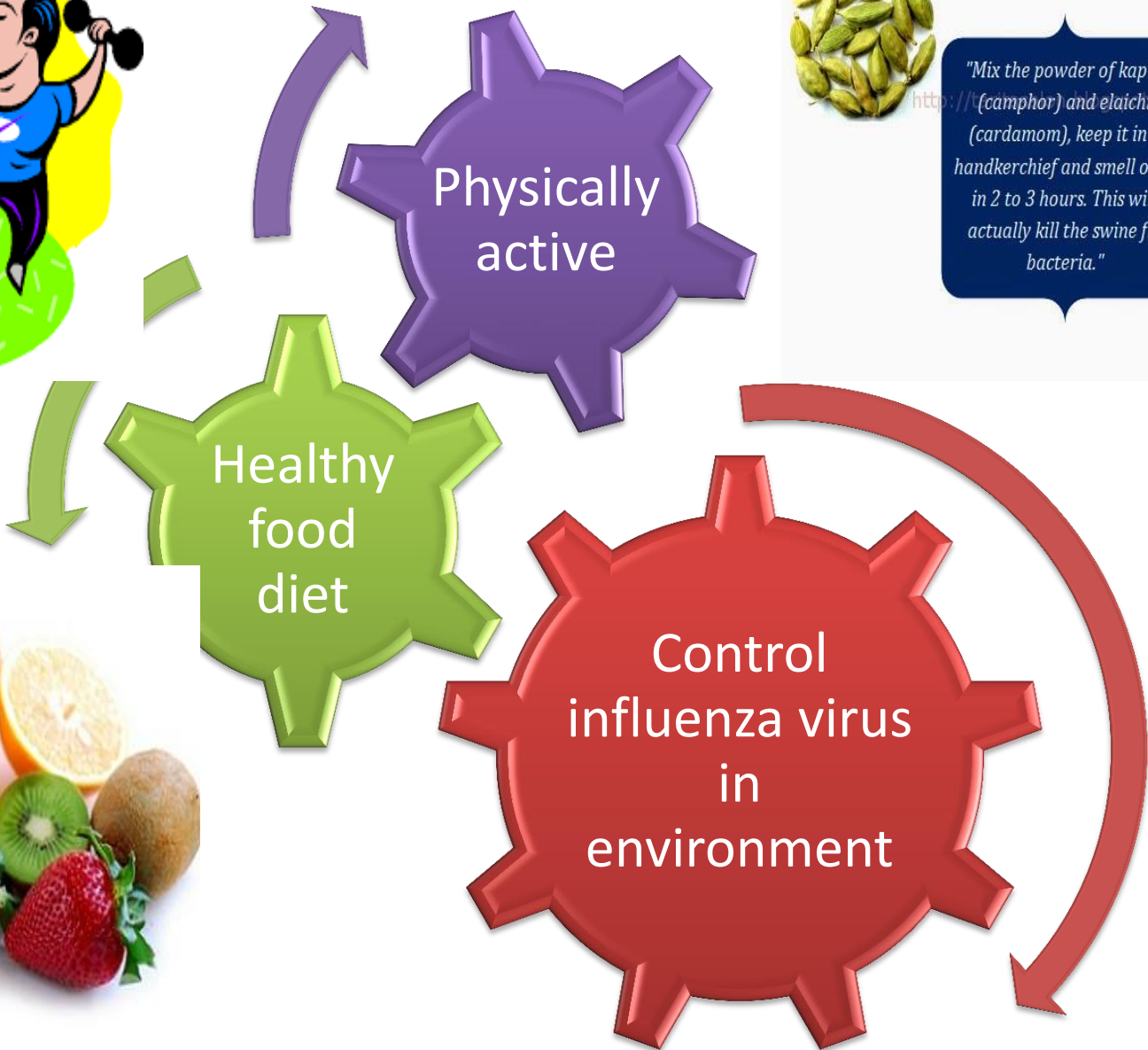
"Mix the powder of kapur (camphor) and elaiichi (cardamom), keep it in a handkerchief and smell once in 2 to 3 hours. This will actually kill the swine flu bacteria."

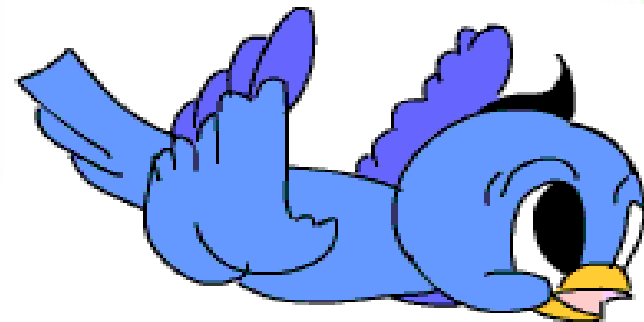


Healthy food diet



Control influenza virus in environment





Source: <http://www.nih.gov>