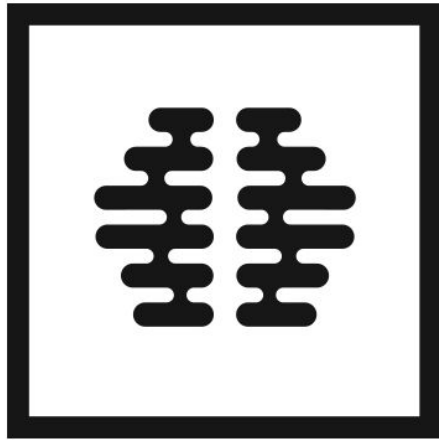


iDRACK

Vaccine: The hidden cure



iDRACK



contact@idrack.org



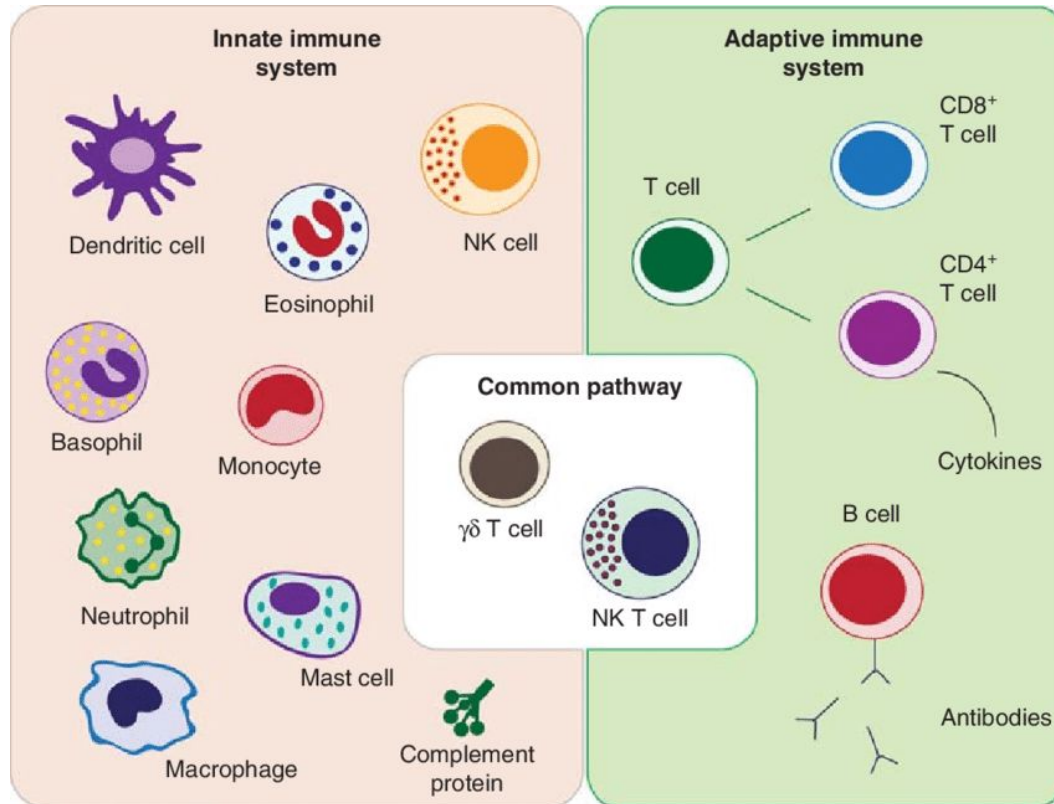
[idrack.pk](https://www.facebook.com/idrack.pk)



[@IDRACKPakistan](https://twitter.com/IDRACKPakistan)


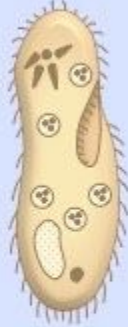






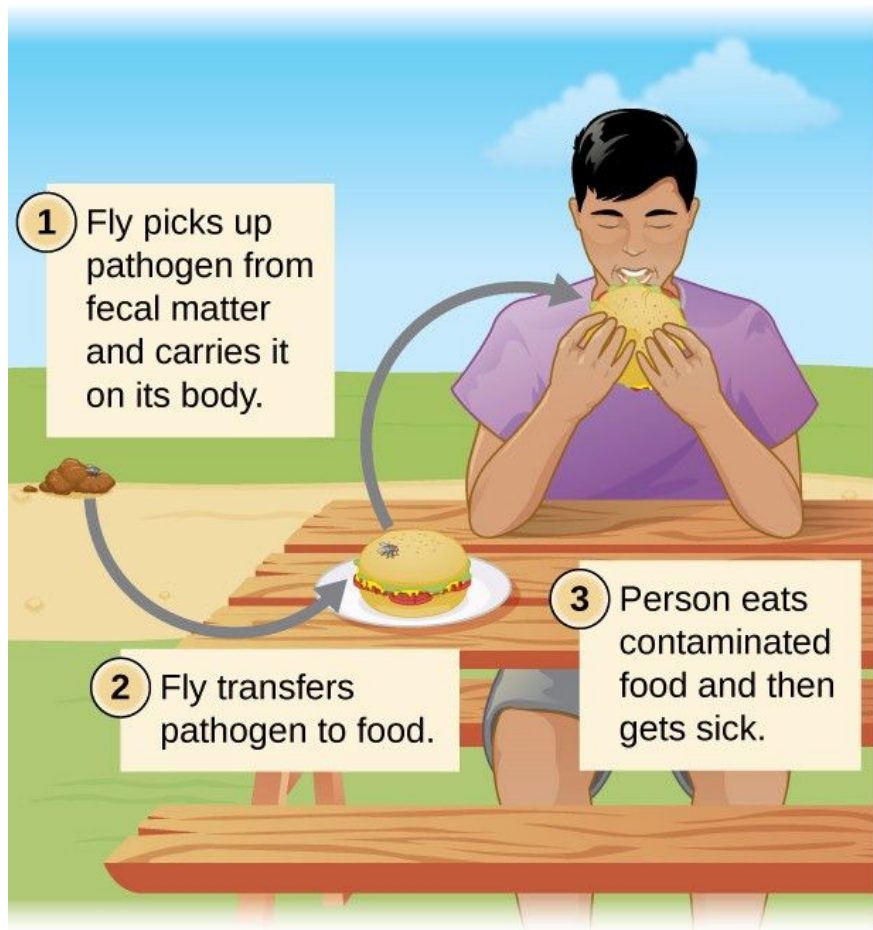
Immune System:



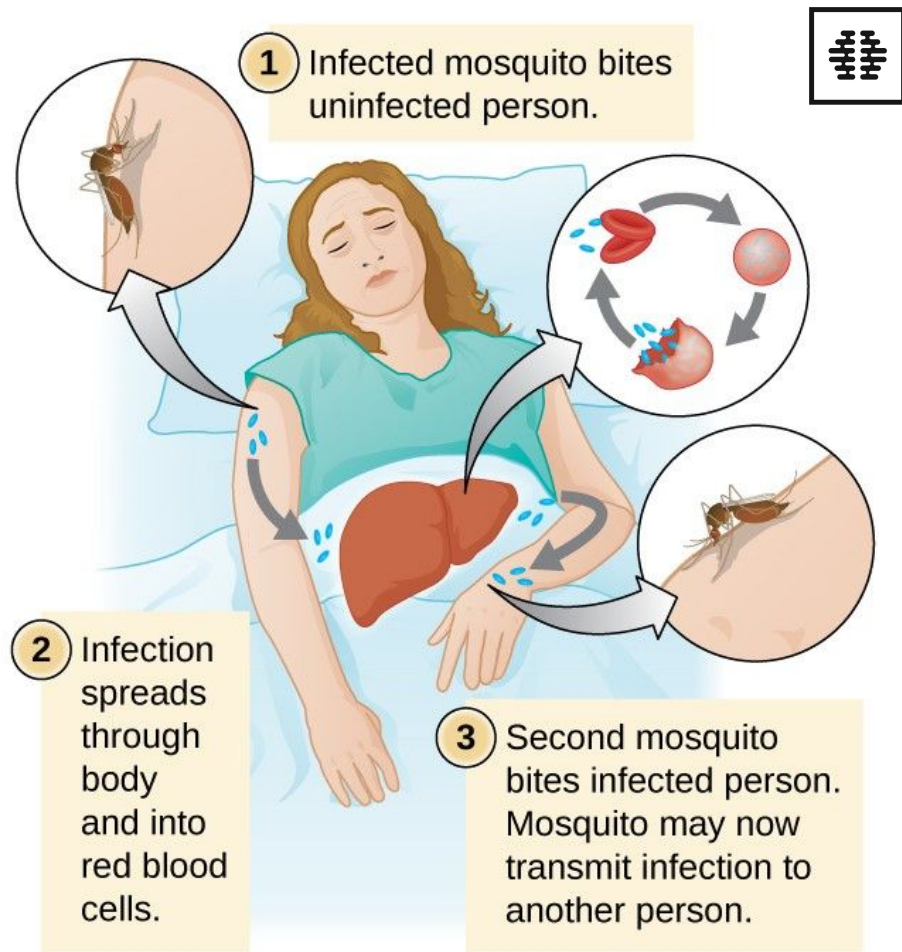


Types of Germs:

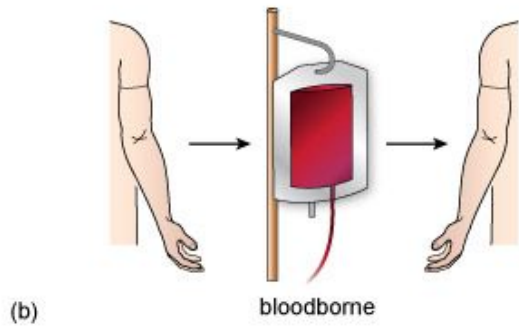
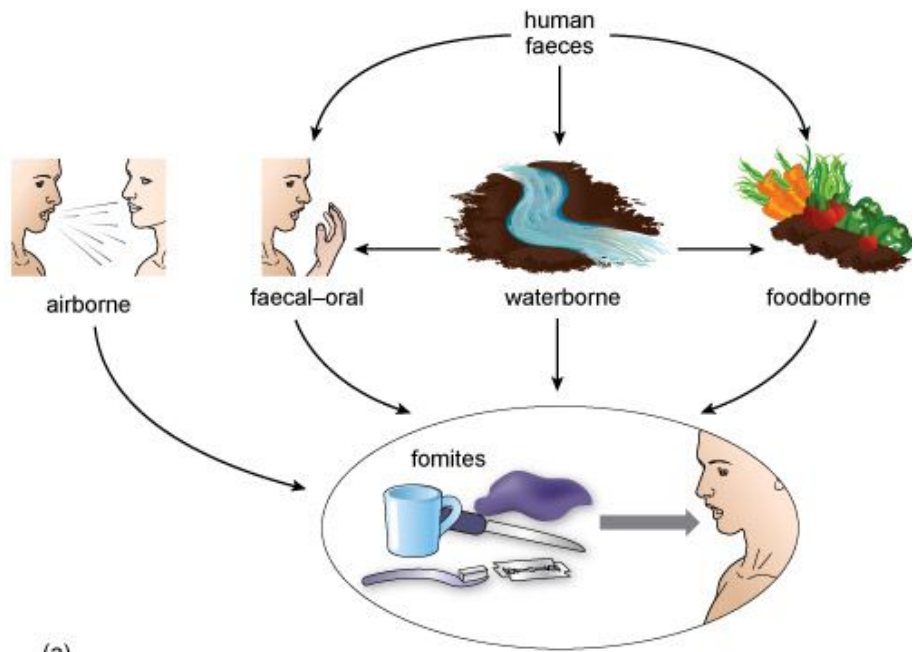
CELLULAR (LIVING)				ACELLULAR (NON-LIVING)	
					
Parasites (e.g. <i>helminthes</i>) ⇒ Tapeworm	Protozoa (e.g. <i>plasmodia</i>) ⇒ Malaria	Fungi (e.g. <i>tinea</i>) ⇒ Athlete's foot	Prokaryote (i.e. <i>bacteria</i>) ⇒ Leprosy	Virus (e.g. <i>HIV</i>) ⇒ AIDS	Prion ⇒ CJD



(a)



(b)

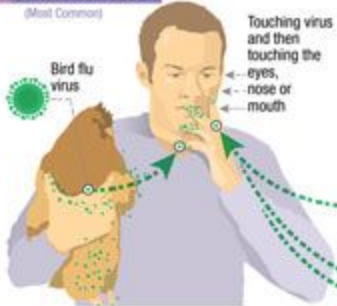




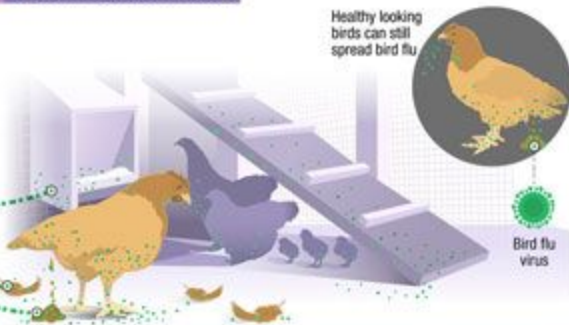
How Infected Backyard Poultry Could Spread Bird Flu to People

Human Infections with Bird Flu Viruses Rare But Possible

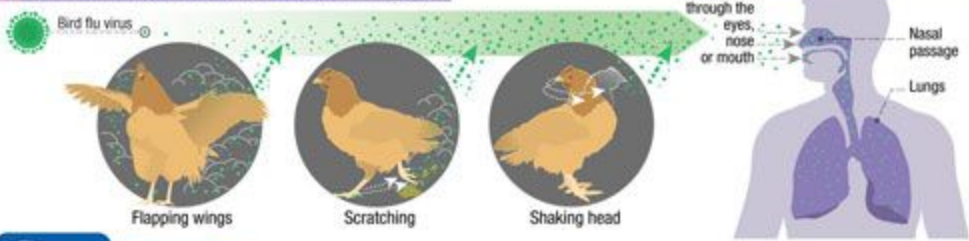
1 Direct Contact (Most Common)



2 Contaminated Surfaces



3 Bird Flu Virus in the Air (in Droplets or Dust)





Prevention is better than cure:

- Hygiene (wash hands, don't go out if you have flu, cover your mouth with your arm when sneezing)
- Eat properly cooked meat
- Use clean water
- Pest control (e.g. mosquitos and flies)
- Blood transfusion (do not donate if you are sick, use clean needles etc)



Vaccines: For the hidden threat





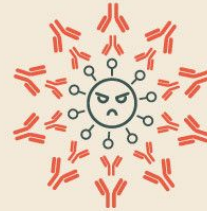
The **vaccine** introduces an **inactivated/weakened form of the virus/bacteria** into the body



The body's immune system **produces antibodies** to defend against the virus/bacteria



Vaccines enhance your body's natural defenses, without causing illness



When the real active virus/bacteria enters the body, it is **recognized by the defense system** which may **eliminate it**



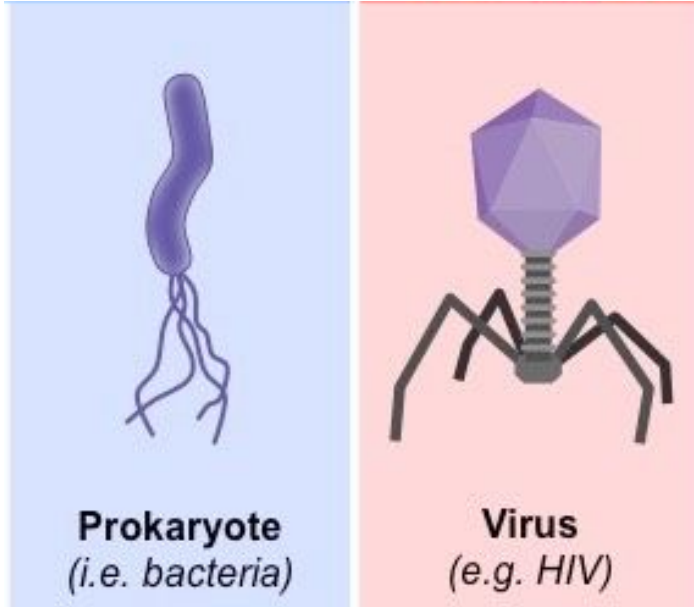
Currently:

- 85% of the world's children receive vaccines against
 - Tuberculosis
 - Polio
 - Diphtheria
 - Tetanus
 - Pertussis
 - Measles
 - Hepatitis B

These vaccines are estimated to save about 31 lac lives per year



Vaccines effective against: (Sometimes)



1. Some part or all, of the pathogen used in the vaccine
2. When the real pathogen attacks the body has already been trained to defend itself and you don't get sick.

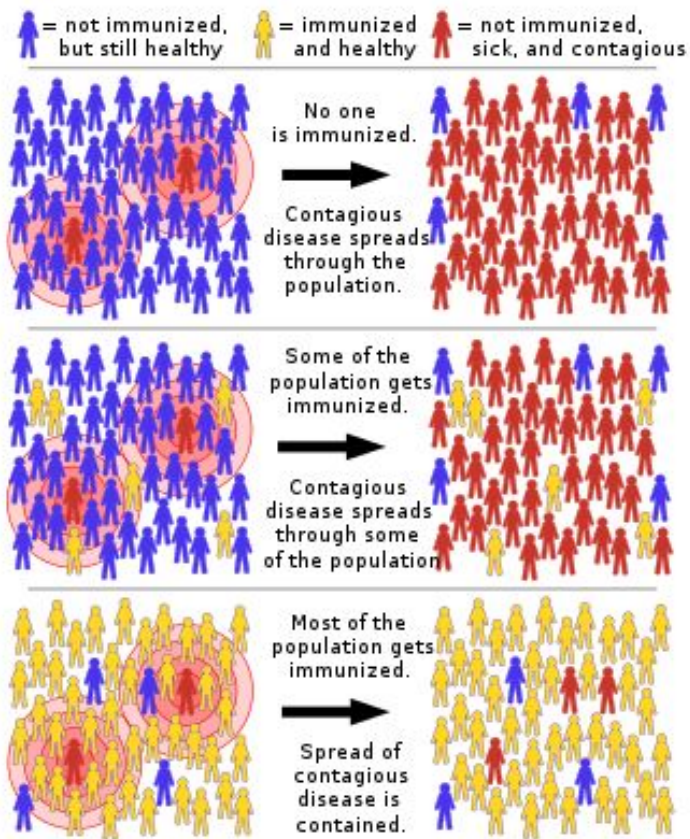


Polio and Pakistan



Pakistan and Afghanistan are the only two countries in the world with polio cases

Herd Immunity





What you can do:

- Protect yourself. Prevention is better than cure, so maintain a high level of hygiene. Help control pests, like rats, mosquitoes, flies etc. Don't interact with blood on meat.
- Vaccines save lives. Get your children vaccinated for diseases like TB, Polio etc to save their future.
- Do not trust rumors without verification. Don't spread messages on Facebook/WhatsApp/Twitter or other social media websites without verification.
- Encourage your friends and family to get vaccinations for children.

References:

Slide 3: Oliveira, Claudia, et al. "Recent advances in characterization of nonviral vectors for delivery of nucleic acids: impact on their biological performance." *Expert opinion on drug delivery* 12.1 (2015): 27-39.

Slide 4: [URL] <https://ib.bioninja.com.au/standard-level/topic-6-human-physiology/63-defence-against-infectio/pathogens.html>

Slide 5: [URL] <https://courses.lumenlearning.com/microbiology/chapter/modes-of-disease-transmission/>

Slide 6: [URL] <https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?id=28148§ion=1.6>

Slide 7: [URL] <https://www.cdc.gov/flu/avianflu/avian-in-humans.htm>, Google Stock photos

Slide 9,13: [URL] <https://gulfnnews.com/world/asia/pakistan/pakistan-parents-use-markers-to-avoid-polio-vaccine-for-kids-1.65239157>, , Google Stock photos

Slide 10: [URL]

<https://www.weforum.org/agenda/2019/04/vaccines-work-vaccinations-healthcare-medicine-world-immunization-week-health-organization/>