

SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES



Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai
Approved by Pharmacy Council of India, New Delhi.
Coimbatore -641035

COURSE NAME: SOCIAL AND PREVENTIVE PHARMACY (BP 802 T)

B.PHARM. VIII SEM / IV YEAR

UNIT II: TOPIC 1: GENERAL PRINCIPLES OF PREVENTION AND CONTROL OF SARS, INFLUENZA,
ACUTE RESPIRATORY INFECTIONS (ARIS), PNEUMONIA

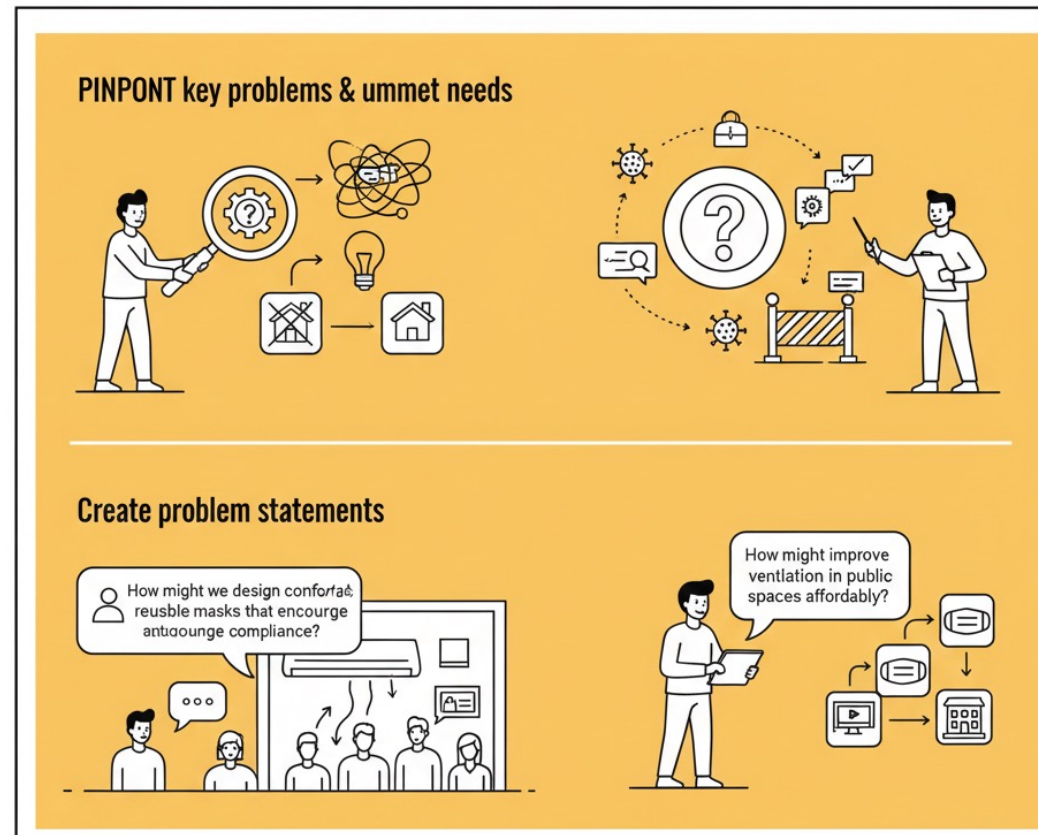
DESIGN THINKING

1. EMPATHY



Understanding user needs, fears, and experiences to identify challenges with existing prevention methods (e.g., discomfort of masks, access to testing).

2. DEFINE



FORMULATING CLEAR CHALLENGES TO GUIDE INNOVATION

DESIGN THINKING

3. IDEATE

BRAINStorm creative solutions.
Encourage diverse ideas.



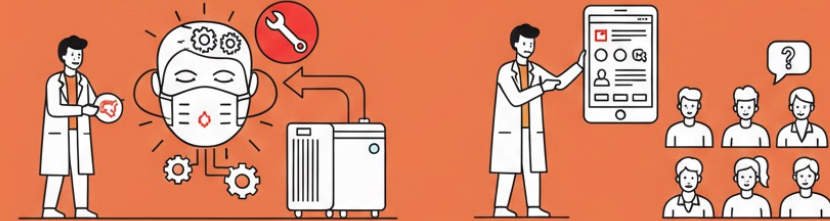
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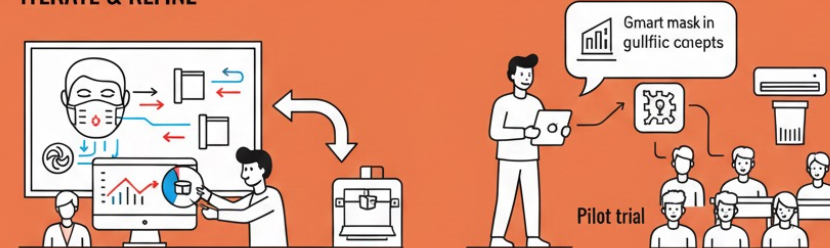
FOSTERING CLEAR & INNOVATION TO SOLVE CHOLLANGES

4. PROTOTYPE & TEST

BUILD ROUGH VERSIONS & GATHER FEEDBACK

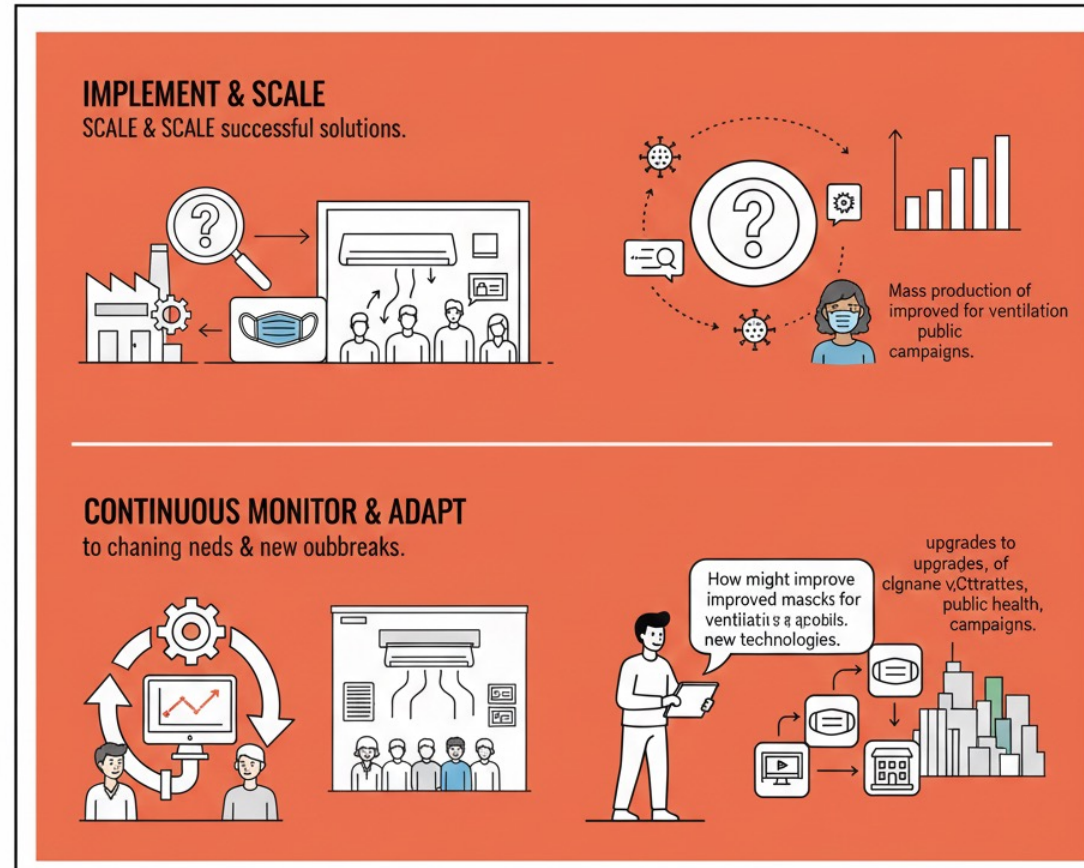


ITERATE & REFINE



TURNING IDEAS INTO TANGIBLE SOLUTIONS SOLVE CHOLLANGES

5. EVOLVE

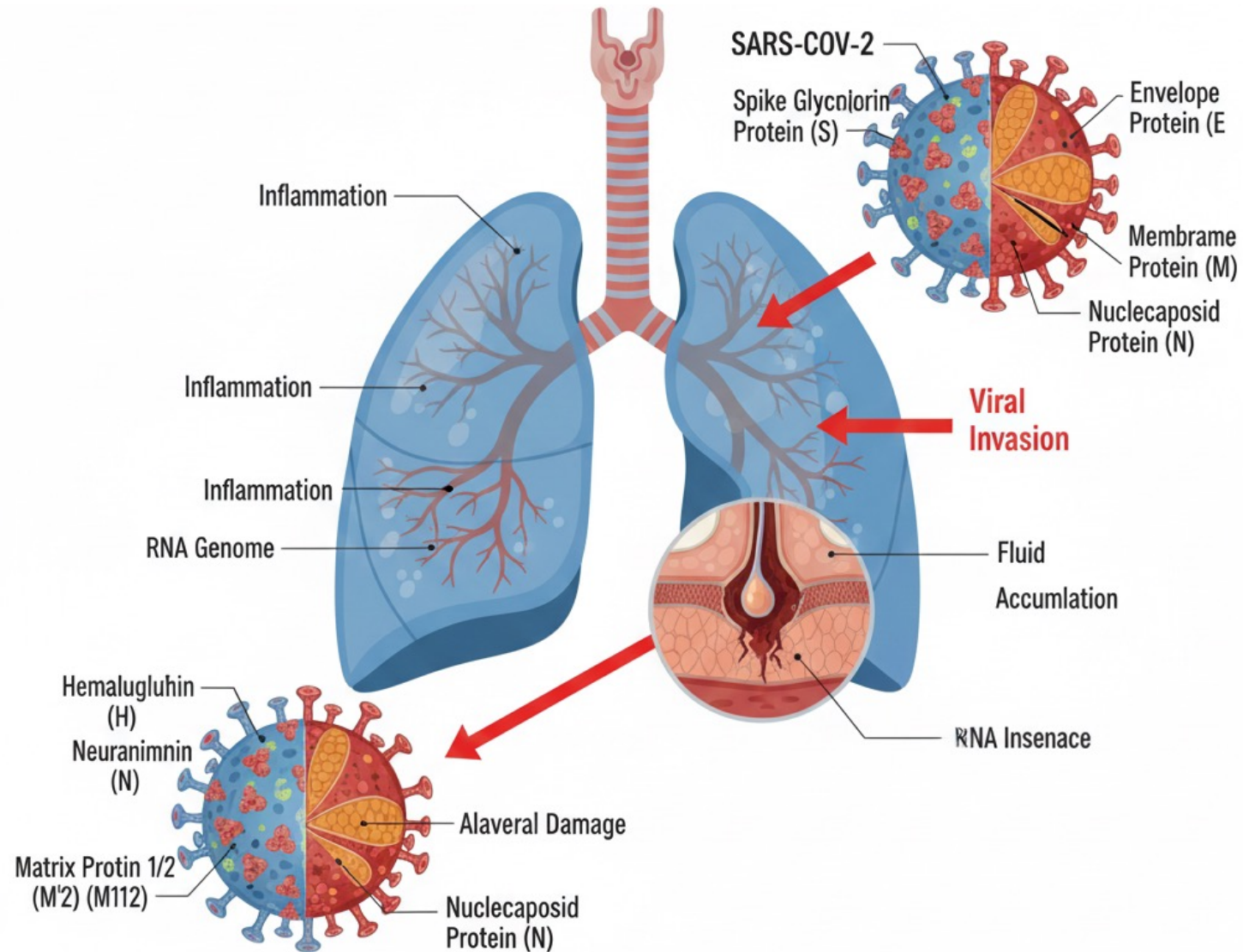


DRIVING CONTINUOUS IMPROVEMENT & ADAPTATION

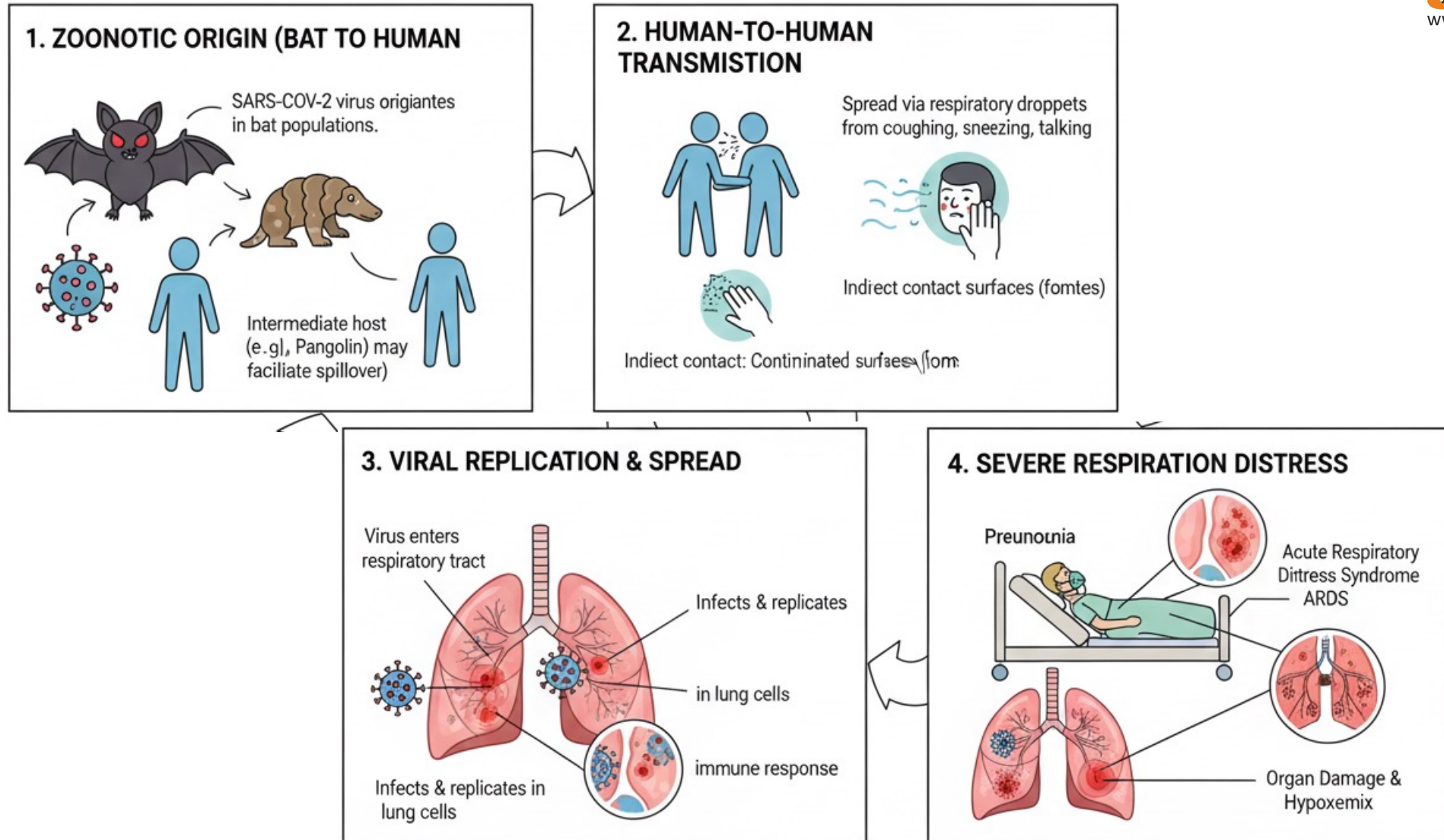
EPIDEMIOLOGY OF SARS



PATHOPHYSIOLOGY



TRANSMISSION



PREVENTION OF SARS



VACCINATION & IMMUMIZATION:

Developing and administaring vaccines to build immunity against the SARS virus



HYGIENE & SANIATION:

Frequent hand washing, use of hand saniizers, and maintaning clean environments



SOCIAL DISTANCING & MASKS

Limiting close contact with sict sick individuals and wearing a masks in public



SURVELLANCE & DIAGNOSTICS

Early detection, isolation of cases, and contact tracing to prevent spread

CONTROL OF SARS



ISOLATION & QUARANTINE:

Separating infected individuals and exposed contacts to prevent further transmission



CONTACT TRACING & MONITORING:

Identifying and monitoring individuals who have been in close contact with confirmed cases



MEDICAL TREATMENT & SUPPORT

Providing supportive care, oxygen therapy, and antiviral medications to SARS patients

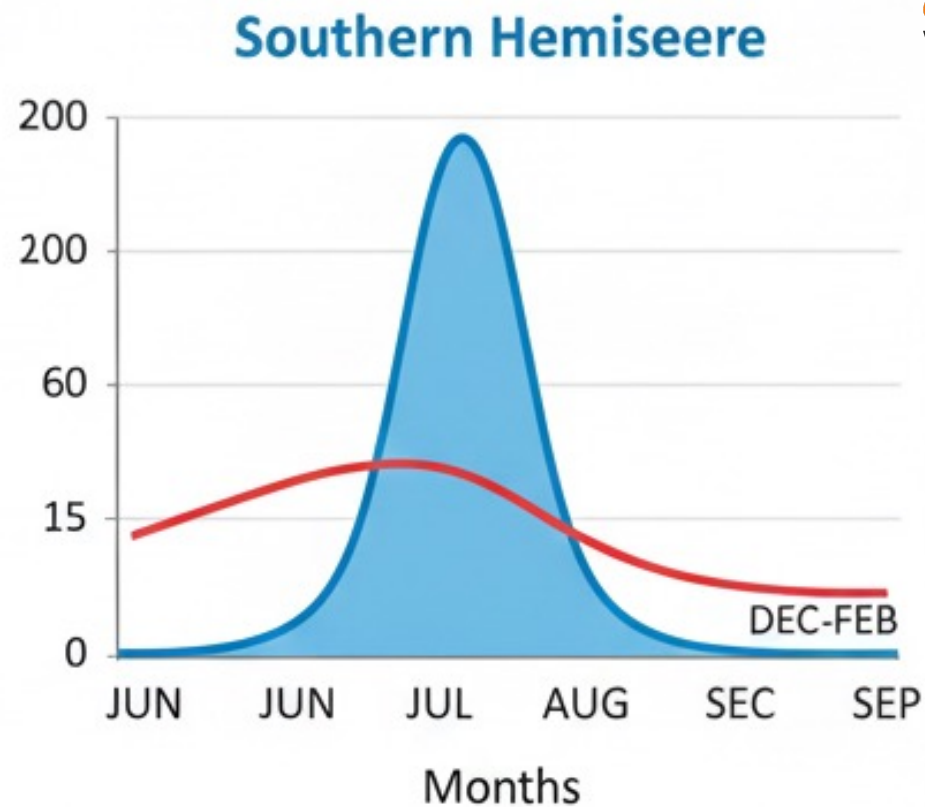
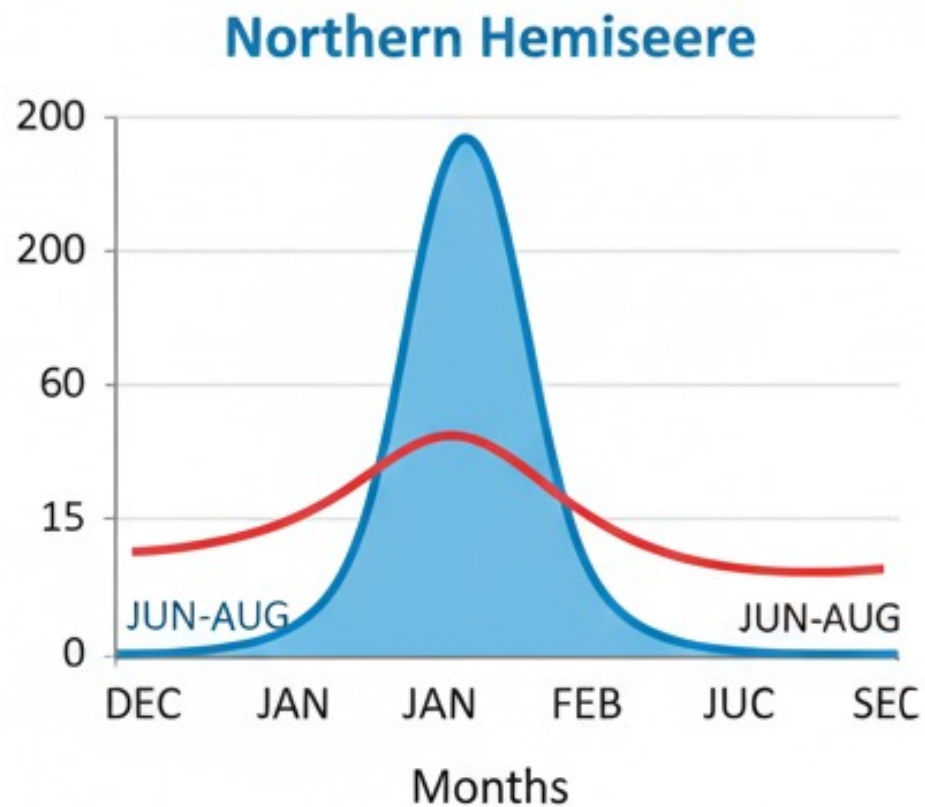


PUBLIC HEALTH INTERVENTIONS:

Implementing travel restrictions, school closures, and community-wide awareness campaigns

INFLUENZA EPIDIOLOGY: PATTERNS

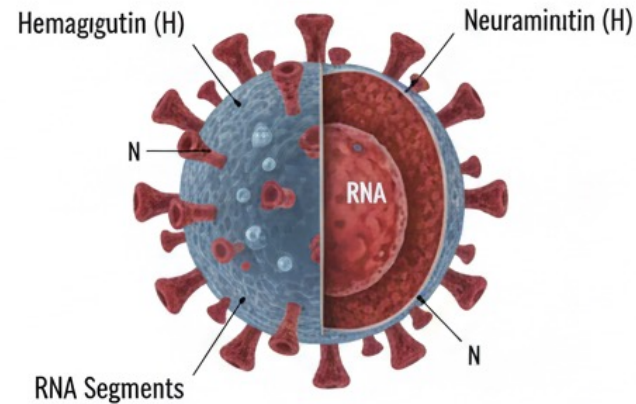




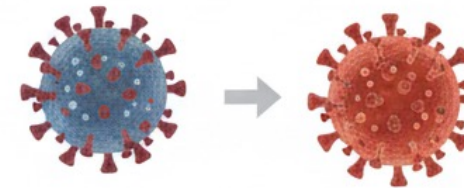
● Flu Season ● Off-Season/Sporatic

UNDERSTANDING GLOBAL INFLUENZA CYCLES

INFLUENZA: VIRUS TYPES & ANTIGENIC SHIFTS

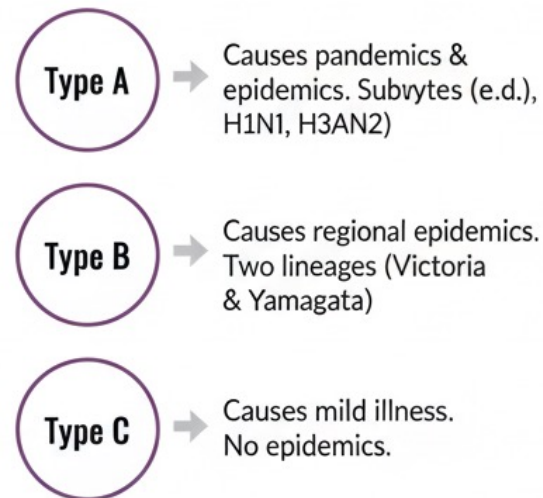


Antigenic Drift

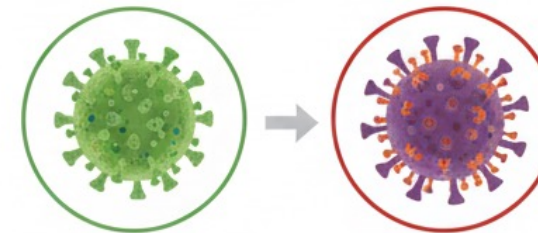


Small, continuous changes in H & N genes. Leads to seasonal flu variations.

INFLUENZA VIRUS TYPES

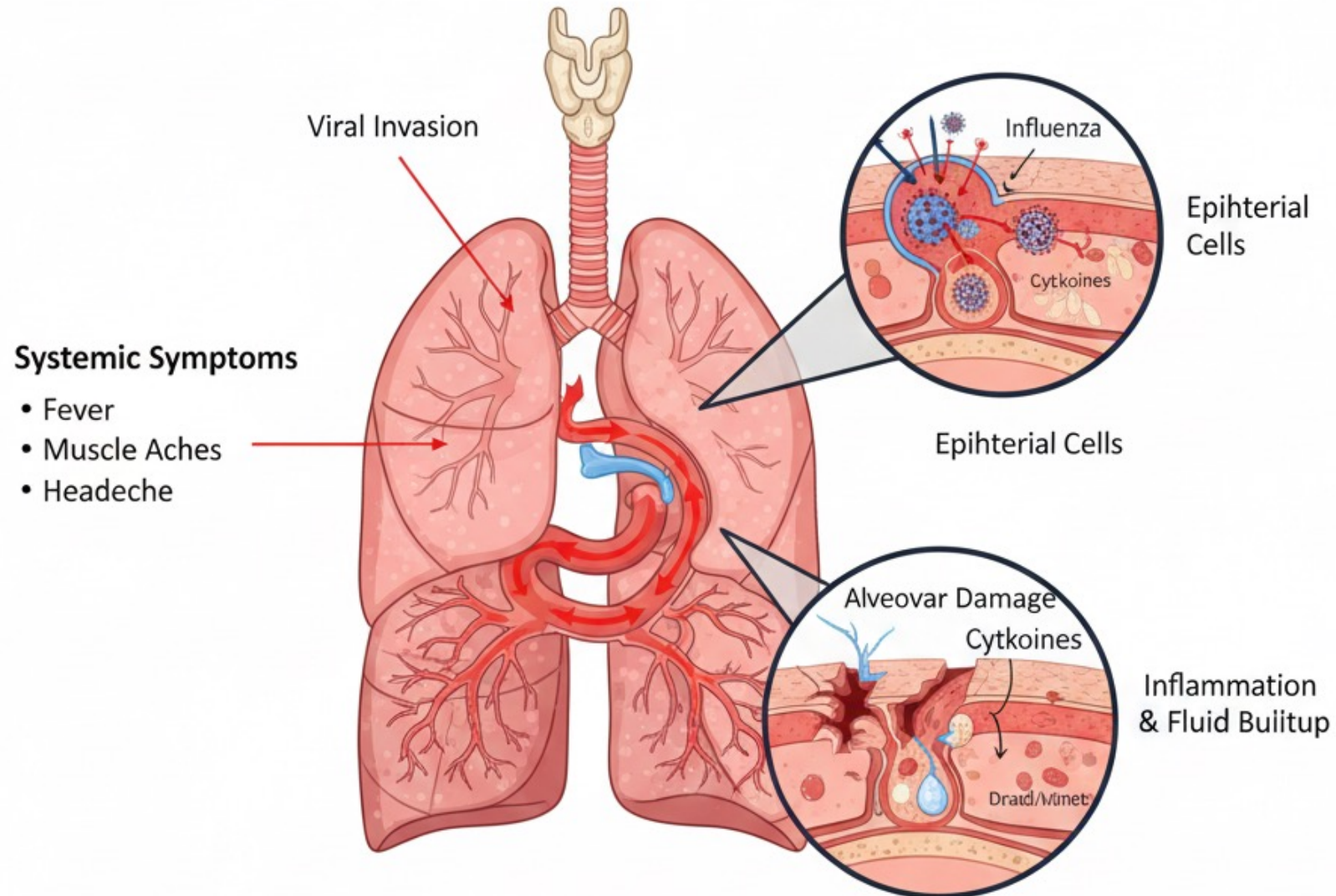


ANTIGENIC SHIFTS



Antigenic Shift

Abrupt, major change. New H//or N protein from animal influenza A virus. Can lead to pandemics.



PREVENTION OF INFLUENZA



VACCINATION & ANNUAL SHOTS

Annual influenza vaccines to build immunity against circulating virus strains



HYIGENE & SANIATION

Frequent hand washing, use of hand saniizers and maintaning clean environments



SOCIAL DISTANCING & MASKS

Avoiding close contact with sick individuals and wearing masks in crowded public places



EARLY DETECTION & ISOLATION

Prompt identification of flu cases, staying home when sick, and following public health guidance

CONTROL OF INFLUENZA



ISOLATION & QUARANTINE:

Separating sick individuals and exposed contacts, and limiting to prevent further spread.



CONTACT TRACING & MONITORING

Identifying and tracking individuals who have been in close contact with confirmed flu cases.



MEDICAL TREATMENT & SUPPORT

Providing antiviral medications, oxygen therapy, and supportive care for severe flu cases



PUBLIC HEALTH INTERVENTIONS:

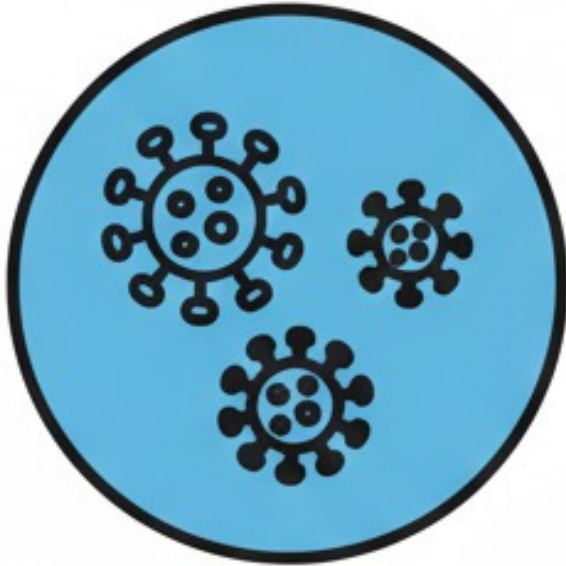
Implementing school closures, public awareness campaigns, and community-wide emergency responses

AIRBORNE DISEASES

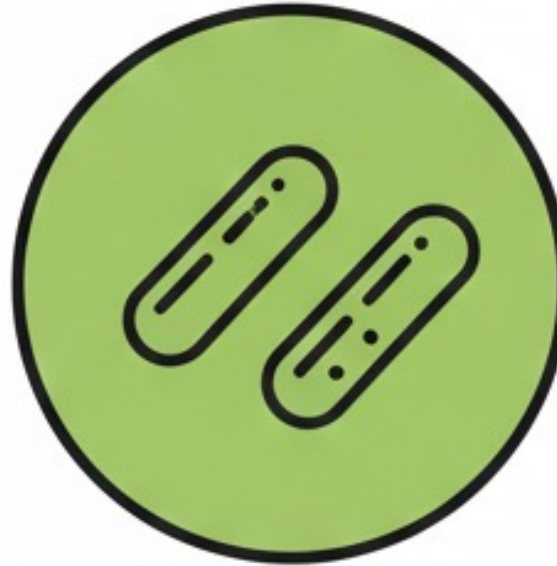
ACUTE RESPIRATORY TRACT INFECTIONS

(ARIS)

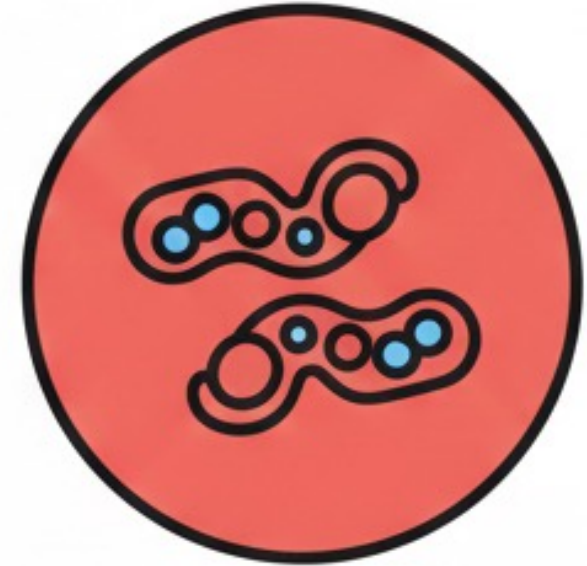
COMMON PATHOGENS



Virues
(e..I, Influenza, RSV,
Rhinovirus



Bacteria
(Pneumonia,
Strep)



Bacteria
(anaarbeic)

MODE OF TRANSMISSION



Droplets
(Coughing,
Surfaces)



Contact
By Surfaces



Airborne
(Small particles)

AFFECTED POPULATION



Children U5

Highest incidence due
due underwopoued
immune systems



Elderly 65+

Increased risk of
severe illness &
complications



Varies in cold regions

Higher burden in
autumn & winter
months

CONTROL OF ARIS



ISOLATION & QUARANTINE

Separating sick individuals to prevent further spread.



CONTACT TRACING & MONITORING

Identifying and monitoring exposed contacts.



MEDICAL TREATMENT & SUPPORT

Providing antivirals, oxygen therapy, and care.



PUBLIC HEALTH INTERVENTIONS

Implementing closures, awareness campaigns.



WEARING MASKS







HAND HYGIENE



SICK STAY HOME

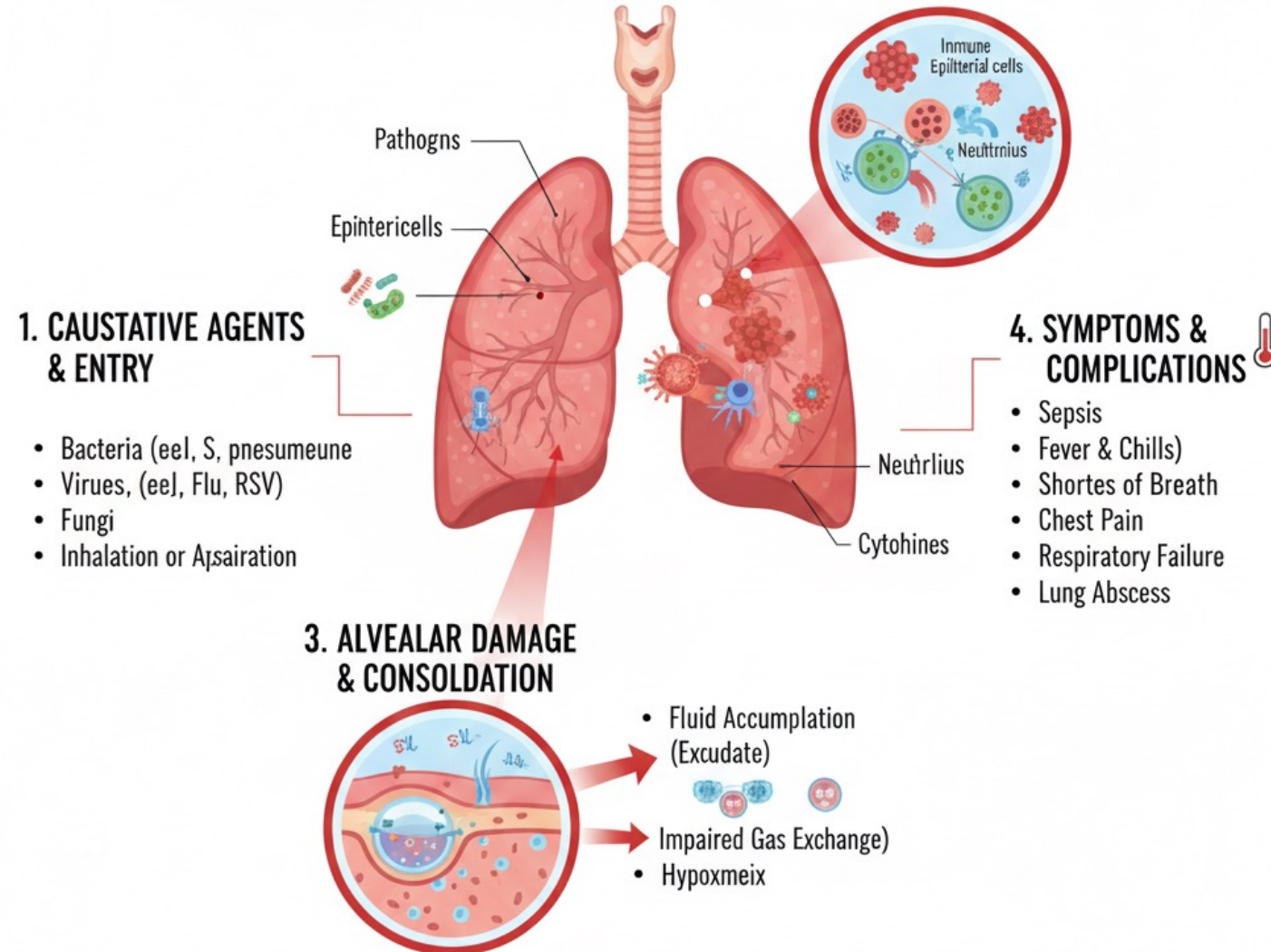


VACCINATION

TYPE	SETTING	DESCRIPTION
 <p>Hospital-Acquired (HAP)</p>	In-hospital, >48h after admission	Often drug-resistant bacteria
 <p>Community-Acquired (CAP)</p>	Outside healthcare settings	Common, various pathogens
 <p>Ventilator Associated (VAP)</p>	On mechanical ventilation	Severe, high mortality risk
 <p>Aspiration</p>	Inhalation of foreign material	Chemical or bacterial pneumonia

PATHOPHYSIOLOGY OF PNEUMONIA

2. INFECTION & INFLAMMATION



CONTROL OF PNEUMONIA



1. ISOLATION & QUARANTINE:

Separating infected patients to prevent transmission.



2. CONTACT TRACING & MONITORING:

Identifying and managing exposed individuals.



3. MEDICAL TREATMENT & SUPPORT:

Providing antibiotics, oxygen therapy, and supportive care



4. WEARING MASKS:

Reduces spread in healthcare settings and public.



5. HAND HYGIENE:

Frequent washing with soap and water



6. VACCINATION:

Promoting recommended childhood and adult vaccines

SUMMARY OF ARIS

Disease	Causative Agent	Key Features	Prevention
SARS	SARS-CoV	Severe viral pneumonia, high mortality	Isolation, PPE, surveillance
Influenza	Influenza A/B/C viruses	Fever, cough, seasonal epidemics	Annual vaccination, antivirals
ARIs	Various viruses	Common cold, sore throat	Hygiene, avoid smoke, masks
Pneumonia	Bacterial/Viral/Fungal	Alveolar inflammation, difficulty breathing	Vaccines (PCV, Hib), nutrition

ASSESSMENT 1

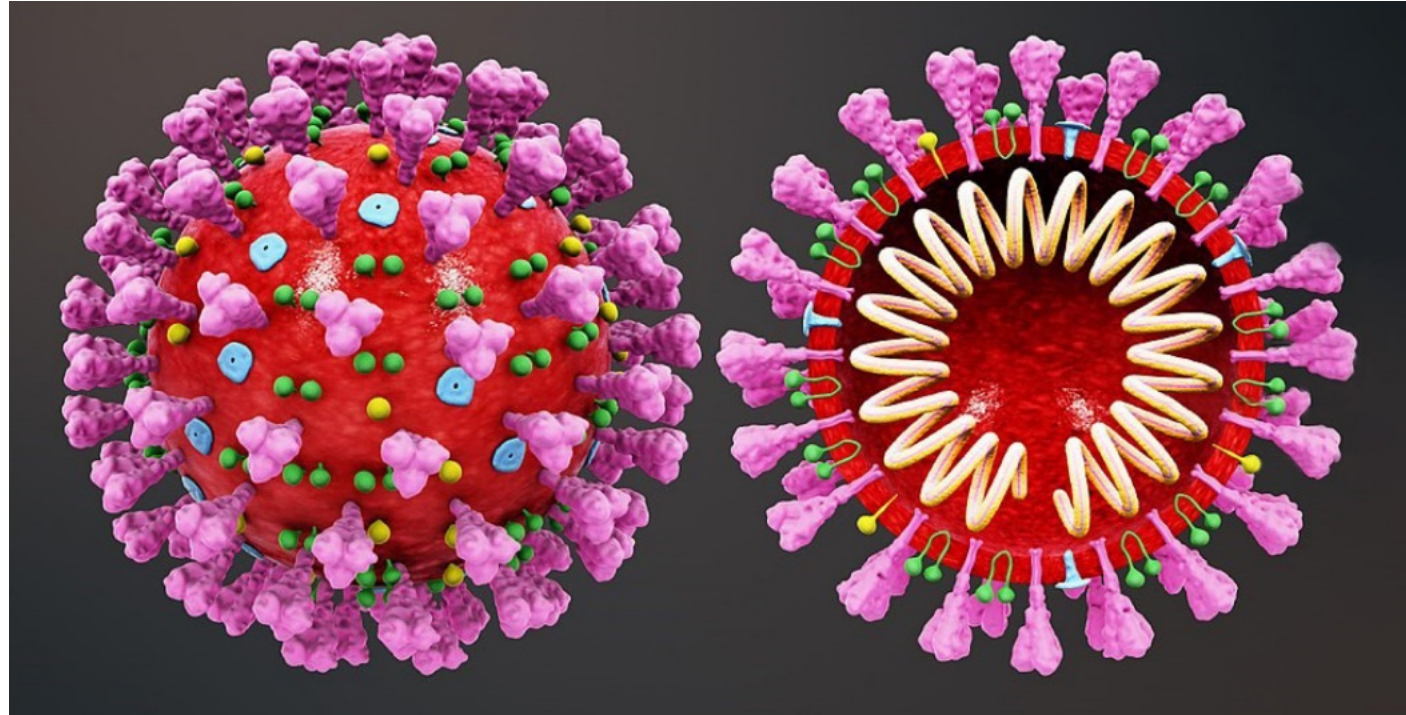
SARS PROVENTION WORD FIND!

Find 5 hidden words related to Chlera Provention.

F	O	T	E	R	L	S	F	G	O	M
Q	O	H	T	F	E	P	F	G	E	F
W	E	R	A	T	U	P	S	E	D	F
P	E	R	T	E	U	S	J	A	N	T
P	E	A	P	L	R	E	O	F	L	E
C	F	O	N	G	E	N	H	A	D	E
P	L	N	E	T	O	H	N	K	O	P
H	E	L	O	N	D	M	T	X	N	D
S	M	G	L	N	A	T	C	E	Y	T

ASSESSMENT 2

Name this organism and disease?



ASSESSMENT 3

Match the following

A. Pathogen	B. Disease/Condition
1. Streptococcus pneumoniae	a. Common Cold
2. Influenza Virus (Orthomyxoviridae)	b. Pharyngitis (Strep Throat)
3. Rhinovirus	c. Pneumonia
4. Streptococcus pyogenes (Group A Strep)	d. Flu (Influenza)

ASSESSMENT 4

Challenging Missing Word Sentence for ARIs

In Severe Acute Respiratory Syndrome (SARS), the viral infection of the lower respiratory tract can cause diffuse..... damage, often leading to a severe form of pneumonia known as ARDS (Acute Respiratory Distress Syndrome).



ASSESSMENT 5



What is the name of the instrument and its usage?

REFERENCES

1. Short Textbook of Preventive and Social Medicine, Prabhakara GN, 2nd Edition, 2010, ISBN: 9789380704104, JAYPEE Publications
2. Textbook of Preventive and Social Medicine (Mahajan and Gupta), Edited by Roy Rabindra Nath, Saha Indranil, 4th Edition, 2013, ISBN: 9789350901878, JAYPEE Publications
3. Review of Preventive and Social Medicine (Including Biostatistics), Jain Vivek, 6th Edition, 2014, ISBN: 9789351532331, JAYPEE Publications
4. Essentials of Community Medicine—A Practical Approach, Hiremath Lalita D, Hiremath Dhananjaya A, 2nd Edition, 2012, ISBN: 9789350250440, JAYPEE Publications

Thank you