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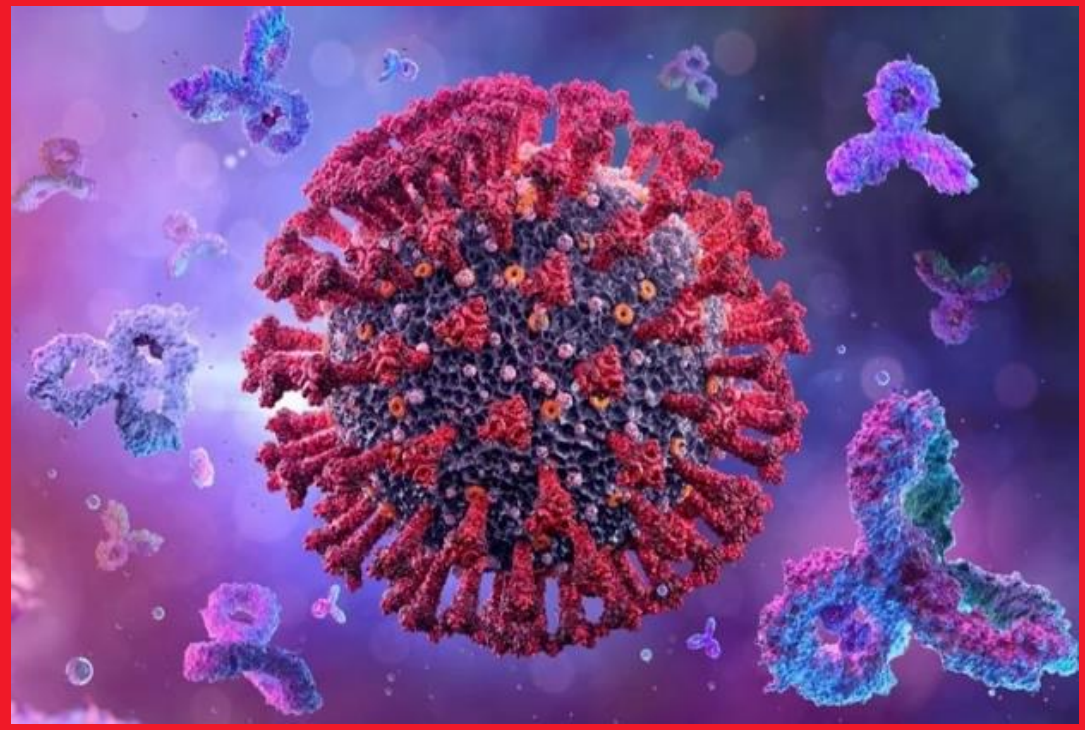
Severe Acute Respiratory Syndrome (SARS). Coronavirus Disease (COVID-19)



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Outline SARS:

- Introduction
- Background
- Symptoms
- Diagnosis and treatment
- Prevention

Introduction:

- **Severe acute respiratory syndrome (SARS)** is a viral respiratory disease caused by a SARS-associated coronavirus.
- Can **spread through small droplets of saliva** in a similar way to the cold and influenza.
- SARS can also be spread indirectly **via surfaces** that have been touched by someone who is infected with the virus.
- Most patients identified with SARS were previously healthy adults aged 25–70 years.
- **The case fatality** among persons with illness is around **3%**.

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Background:

- It was first identified at the end of **February 2003** during an outbreak that emerged in **China** and spread to 4 other countries.
- Over the next few months, the illness spread to more than two dozen countries in North America, South America, Europe, and Asia before the SARS global outbreak of 2003 was contained.
- It was the first severe and readily transmissible new disease to emerge in the 21st century and showed a clear capacity to spread along the routes of international air travel.
- **There have not been any new cases of SARS since 2004**, and **the risk** is **relatively low**.

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Symptoms:

- **The incubation period** is usually **2-7 days**.
- **The first symptom** of the illness is generally **fever (>38°C)** and sometimes associated with chills and rigors.
- Other symptoms include **headache, malaise, and muscle pain.**
- After 3-7 days, a **lower respiratory phase** begins with the onset of a dry, non-productive cough or dyspnoea (shortness of breath) that may be accompanied by, or progress to, hypoxemia (low blood oxygen levels).
- **Chest radiographs may be normal** throughout the course of illness, though not for all patients.
- **The white blood cell count** is often **decreased** early in the disease, and many people have **low platelet counts** at the peak of the disease.

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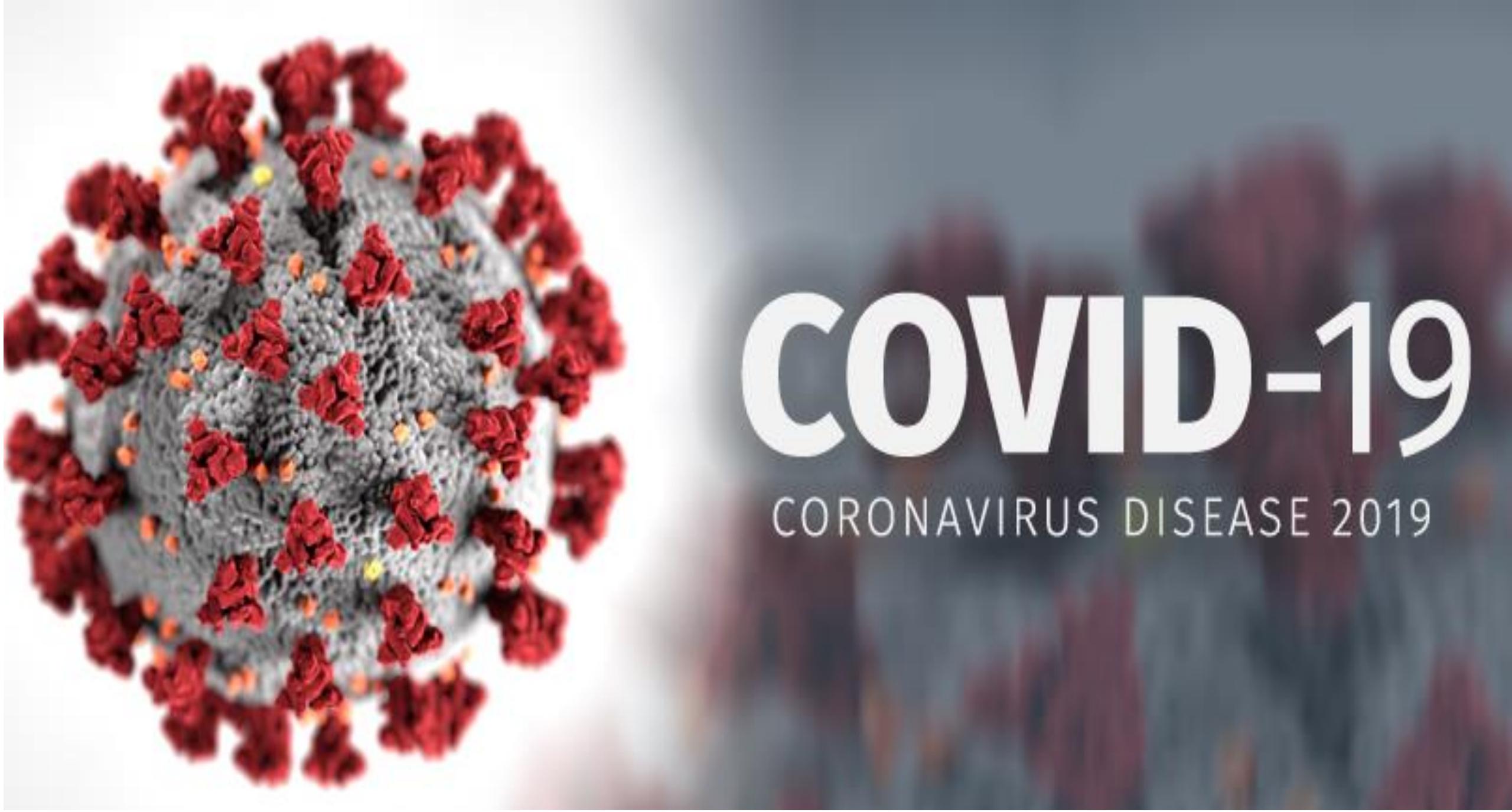
Diagnosis and treatment

- There is currently **no test** to diagnose SARS.
- There is **no cure or vaccine for SARS** and treatment should be supportive and based on the patient's symptoms.

Prevention:

- **Frequent hand washing** using soap or alcohol-based disinfectants.
- Avoid touching eyes, nose, and mouth.
- **For those with a high risk** of contracting the disease, such as health care workers, use of **personal protective equipment**, including a mask, goggles and an apron is mandatory. Whenever possible, household contacts should also wear a mask.


COVID-19
CORONAVIRUS DISEASE 2019

Outline COVID-19:

- Introduction
- Background
- Variants of the virus
- Transmission
- Symptoms
- Complications of the disease
- Diagnosis
- Treatment
- Prevention, quarantine and isolation
- Vaccination
- Global impact of COVID-19

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Introduction:

- **Coronavirus disease (COVID-19)** is an infectious disease caused by the SARS-CoV-2 virus.
- Most people infected with the virus will experience **mild to moderate respiratory illness** and recover **without requiring special treatment**.
- Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness.
- **Anyone** can get sick with COVID-19 and become seriously ill or die **at any age.**
- The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe.

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Background:

- WHO first learned of this new virus on **31 December 2019**, following a report of a cluster of cases of ‘viral pneumonia’ **in Wuhan, People’s Republic of China.**

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Variants of the virus:

- Local public health officials monitor the spread of all variants in close collaboration with WHO.
- Numerous variants of the virus that causes COVID-19 are being tracked globally during this pandemic.
- Variant of concern is Omicron. Omicron **spreads more easily** than earlier variants, including the Delta variant. Omicron **causes less severe illness and death** in general, according to data.
- Viruses constantly change through mutation and sometimes these mutations result in a new variant of the virus.
- In the United States, CDC uses viral genomic surveillance to track COVID-19 variants, to more quickly identify and act upon these findings to best protect the public's health.

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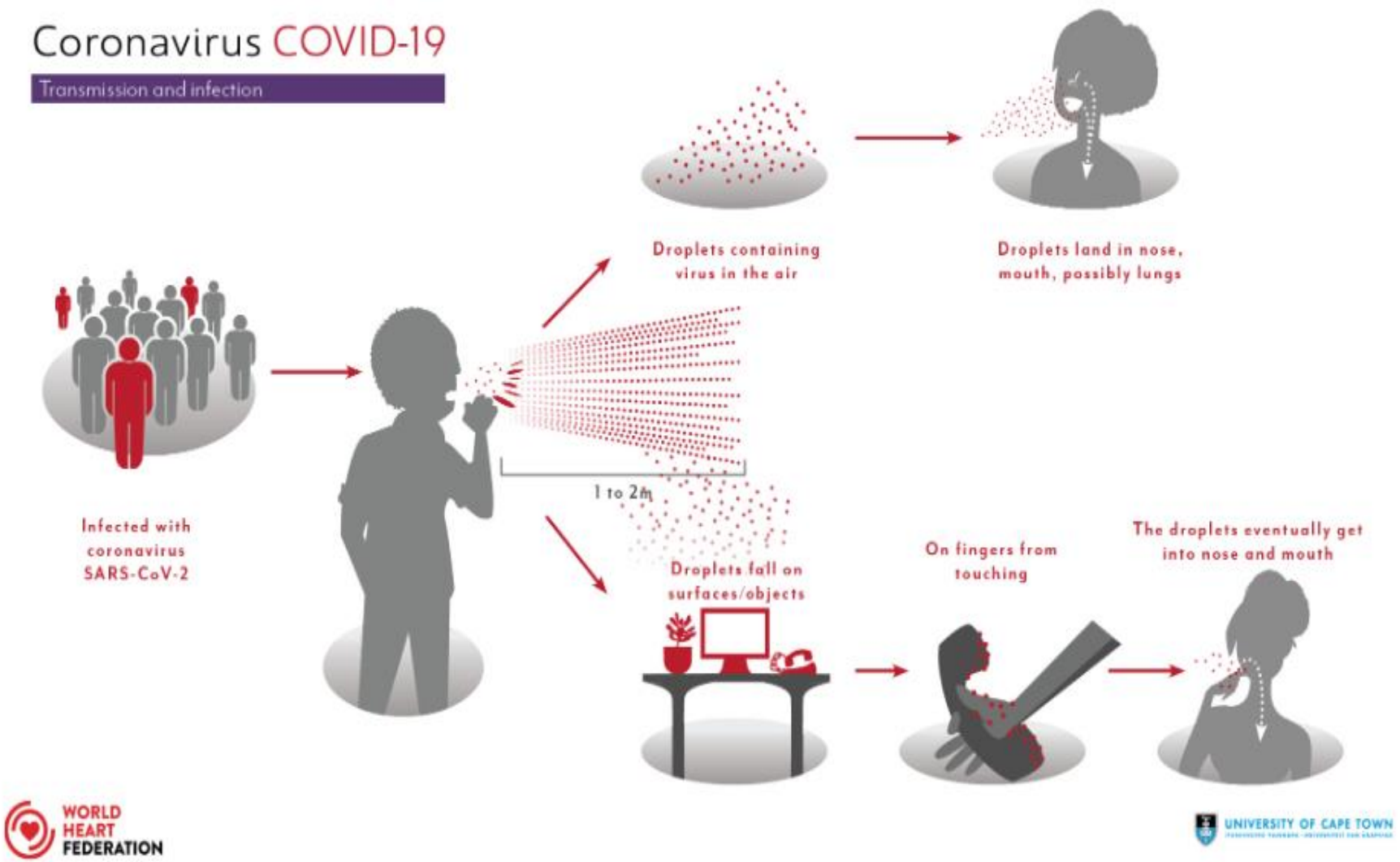
Transmission:



Anyone infected with COVID-19 can spread it, even if they do **NOT** have symptoms.

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Symptoms:

Appear **2-14 days after exposure** to the virus. Anyone can have mild to severe symptoms.

Most common symptoms:

- fever
- cough
- tiredness
- loss of taste or smell.

Less common symptoms:

- sore throat
- headache
- aches and pains
- diarrhoea
- a rash on skin, or discolouration of fingers or toes
- red or irritated eyes.

Serious symptoms:

- difficulty breathing or shortness of breath
- loss of speech or mobility, or confusion
- chest pain.

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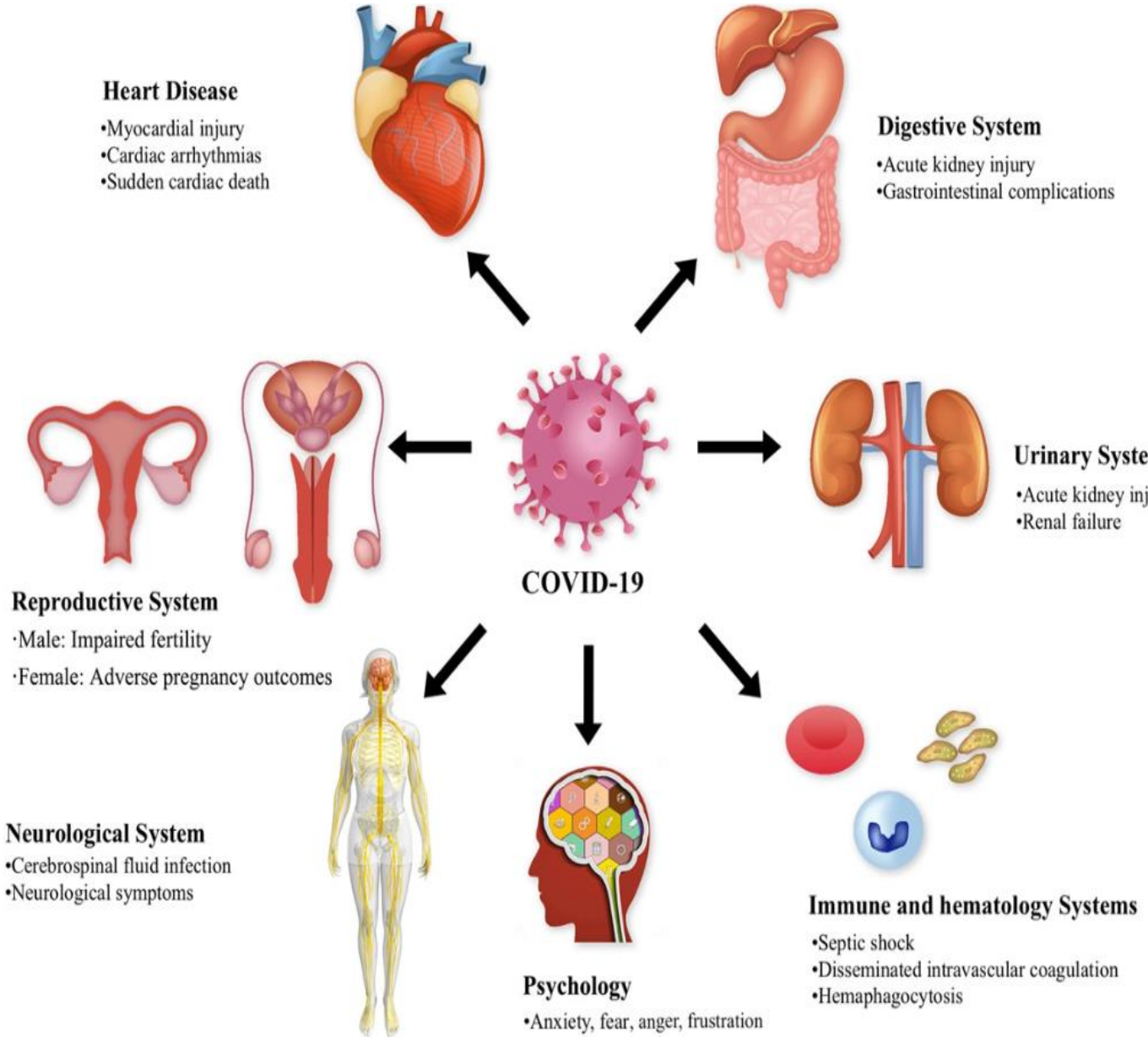
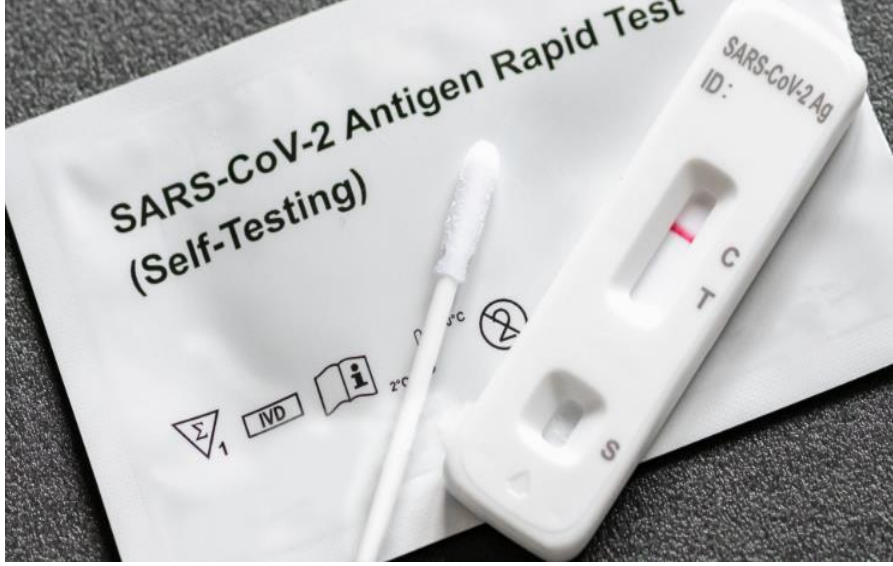
Complications of the disease:

- **Complications leading to death** may include respiratory failure, acute respiratory distress syndrome (ARDS), sepsis and septic shock, thromboembolism, and/or multiorgan failure, including injury of the heart, liver or kidneys.
- In rare situations, children can develop a **severe inflammatory syndrome** a few weeks after infection.



Diagnosis

- **Anyone with symptoms should be tested**, wherever possible. While a person is waiting for test results, they should **remain isolated** from others.
- **Prioritisation** of testing (people at risk, like health care workers), where capacity is limited.
- People who do not have symptoms but have had close contact with someone who is, or may be, infected may also consider testing.



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Types of tests for COVID-19

Molecular test (PCR) is used to detect SARS-CoV-2 and confirm infection (look for the genetic material of the virus itself).

- **The most sensitive.**
- Turnaround time can take **several days, in hospitals – 3 hours**.
- Samples are collected from the nose and/or throat with a swab.

Antigen testing (to identify one of the outer proteins of the viral shell or envelope). Antigen rapid diagnostic tests **(RDT)**.

- **Less accurate**, **faster** to get the result.

Antibodies testing (to detect within the human body, whether they've developed antibodies). Also known as **serological tests** and usually done on a **blood sample**, these tests detect antibodies produced in response to an infection.

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Treatment

- Scientists around the world are working to find and develop treatments for COVID-19.
- **Symptomatic treatment**.
- Optimal supportive care includes **oxygen** for severely ill patients and those who are at risk for severe disease and more advanced respiratory support such as **ventilation** for patients who are critically ill.
- **Dexamethasone** is a corticosteroid that can help reduce the length of time on a ventilator and save lives of patients with severe and critical illness.
- **Antiviral treatment and monoclonal antibodies** (particularly against Delta variant)
- **Antibiotics should not be used** as a means of prevention or treatment of COVID-19.

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Prevention:

Vaccination if vaccines supply available

Public health and social measures

- Surveillance
- Contact tracing
- Isolation
- Individual protective behaviours

Individual protective behaviours

- Distancing at least 1 m apart from others
- Wear a properly fitted mask
- Avoiding poorly ventilated places and settings
- Staying home if unwell
- Covering coughs and sneezes
- Cleaning hands frequently

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Quarantine and isolation

Both isolation and quarantine are methods of preventing the spread of COVID-19. The duration and the necessity of these methods can be different in various countries and depends on national guidelines.

- **Quarantine** is used for anyone who is a contact of someone infected with the SARS-CoV-2 virus, whether the infected person has symptoms or not.
- Remain separated from others because you have been exposed to the virus and you may be infected and can take place in a designated facility or at home. It takes **14 days.**

- **Isolation** is used for people with COVID-19 symptoms or who have tested positive for the virus.
- Being in isolation means being **separated from other people**, ideally in a medically facility where you can receive clinical care.
- If you have symptoms – **10 days + additional 3** without symptoms.
- Do not develop symptoms, remain in isolation for **10 days** from the time you test positive.

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Vaccination

- The first mass vaccination programme started in early December 2020 and the number of vaccination doses administered is updated on a daily basis here.
- COVID-19 vaccines provide **strong protection against serious illness, hospitalization and death**.
- Even after getting vaccinated, **keep taking precautions**.
- **Prioritization** of vaccination.
- WHO-authorized COVID-19 vaccines are safe **for most people of 18 years and older**, including those with pre-existing conditions of any kind such as auto-immune disorders. Some of them are also **approved for children**.
- Even if the person had COVID-19, he/she should be vaccinated (protection varies greatly from person to person).

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- **It is safe and effective** to receive a second or a third dose of a **different COVID-19 vaccine**.
- Like with any vaccine, some people will experience mild to moderate side effects after being vaccinated against COVID-19.
- **Side effects to COVID-19 vaccines** include a fever, tiredness, headache, muscle ache, chills, diarrhoea and pain or redness at the injection site.
- **More serious or long-lasting side effects** to COVID-19 vaccines are possible but **extremely rare**.
- Current WHO data indicates that most people have strong protection against serious illness and death for at least **6 months after vaccination.**

Booster doses are offered to people **4-6 months after** the primary series of vaccination is completed. WHO does not currently recommend that children and young adults under the age of 18 receive a booster dose.

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Types of COVID-19 vaccines:

Inactivated or weakened virus vaccines

use a form of the virus that has been inactivated or weakened

it doesn't cause disease but still generates an immune response

Protein-based vaccines

use harmless fragments of proteins or protein shells that mimic the COVID-19 virus to safely generate an immune response

Viral vector vaccines

use a safe virus that cannot cause disease but serves as a platform to produce coronavirus proteins to generate an immune response

RNA and DNA vaccines

use genetically engineered RNA or DNA to generate a protein that itself safely prompts an immune response.

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List of vaccines obtained EUL(Emergency Use List):

- As of 12 January 2022, the following vaccines have obtained EUL:
- The Pfizer/BioNTech Comirnaty vaccine, 31 December 2020.
- The SII/COVISHIELD and AstraZeneca/AZD1222 vaccines, 16 February 2021.
- The Janssen/Ad26.COV 2.S vaccine developed by Johnson & Johnson, 12 March 2021.
- The Moderna COVID-19 vaccine (mRNA 1273), 30 April 2021.
- The Sinopharm COVID-19 vaccine, 7 May 2021.
- The Sinovac-CoronaVac vaccine, 1 June 2021.
- The Bharat Biotech BBV152 COVAXIN vaccine, 3 November 2021.
- The Covovax (NVX-CoV2373) vaccine, 17 December 2021.
- The Nuvaxovid (NVX-CoV2373) vaccine, 20 December 2021

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Conditions that would exclude someone from being vaccinated:

- have a history of severe allergic reactions/anaphylaxis to any of the ingredients of the COVID-19 vaccine, in order to avoid possible adverse effects.
- have a fever over 38.5ºC on the day of vaccine appointment. Appointment should be postponed until the recovery.
- Currently have confirmed or suspected COVID-19. Wait until mandated isolation period will be completed and acute symptoms have passed to get vaccinated.

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The impact of COVID-19 vaccines on the pandemic

– It depends on several factors such as:

- The effectiveness of the vaccines
- How quickly they are approved, manufactured, and delivered
- The possible development of other variants
- How many people get vaccinated

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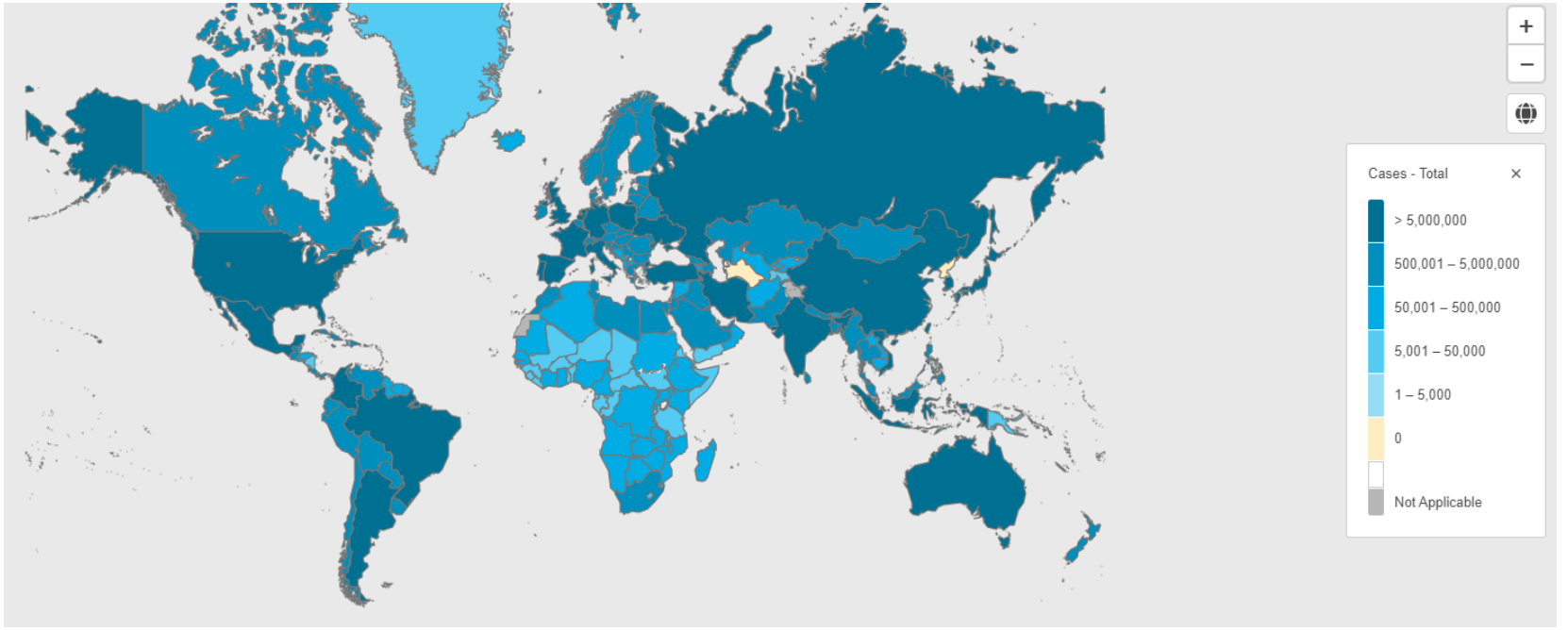
WHO Coronavirus (COVID-19) Dashboard

- **Globally**, as of **5:54pm CEST, 6 September 2022**, there have been **603,164,436 confirmed cases** of COVID-19, including **6,482,338 deaths**, reported to WHO. As of **1 September 2022**, a total of **12,478,615,692 vaccine doses** have been administered.
- Shows the number of cases, deaths and vaccines administered globally.



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Thank you for your attention!

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