E-COURSE: INFORMATION & MANAGEMENT OF COVID-19

The course will certify a learner on understanding, possible ways of protection and management of COVID.
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MODULE I – UNDERSTANDING COVID-19 (NOVEL CORONA VIRUS)

- About Corona viruses
- Origin and Transmission of Viruses
- People at Most Risk of affecting by COVID-19
- Signs & Symptoms of COVID-19
- Diagnosis of COVID-19
In December 2019, there was a cluster of cases of pneumonia in China. Investigations found that it was caused by previously unknown virus now named as 2019 Noval Coronavirus (nCOV). This is a new virus and what’s known about the virus might change in future. The disease caused by these newly discovered corona virus is called Coronavirus Disease (COVID-19).

**About Coronaviruses**

Corona viruses are a large family of viruses that consists of a core of genetic material surrounded by an envelope with protein spikes. This gives it the appearance of crown. Crown in Latin is called corona and that’s how these viruses get their name.

Viruses continue to emerge and pose threats to Public Health. There are different types of viruses that cause respiratory or sometimes gastrointestinal symptoms. Some examples of emerging respiratory viruses include

- Severe Acute Respiratory Syndrome- Corona Virus (SARS-COV) in 2002
- HINI Influence in 2009
- Middle East Respiratory Syndrome- Corona Virus (MERS-COV) in 2012
- Noval Coronavirus (COVID-19) in 2019
Corona viruses are known to cause illness ranging from the common cold to more severe diseases such as MERS and SARS, and now “A novel, or new coronavirus called COVID-19”.

The 2019 novel coronavirus, initially occurred in the group of people who have been associated with the seafood and live animal market in the city of Wuhan, China. The disease has since spread from those who were sick to others including family members and health care workers. There are many cases of COVID-19 at present. This disease has spread within China and number of other countries.

**Origin and Transmission of Viruses**

Human health and animal health are linked and it is being estimated that 70%-80% of emerging and re-emerging infectious diseases are transmitted between animals and humans. The reasons why we see the emergence and spread of viruses include population growth, climate change, increased urbanization, and international travel and migration.

It is known that coronaviruses circulate in a range of animals and there are some known coronavirus that have not yet infected humans. Sometimes these viruses make a jump from animals to humans. This is called a spillover effect.

The spillover could be due to a range of factors such as mutations in the viruses or increase contact between humans and animals. For example MER-COV is known to be transmitted from dromedary camels in Saudi Arabia in 2012 and SARS-COV was transmitted from civet cats in China in 2002. The animal reservoir of the novel coronavirus is not known yet.
Human to Human Transmission of the viruses

In general respiratory viruses usually transmitted through droplets created when infected person cough or sneezes or through objects that are contaminated with the viruses.

The spread of infection happens in a chain reaction manner i.e. a person infected can infect persons in his contact and now these persons can infect further more persons in their contact and so on. The key to stop the spread of the infection is to break a link of this chain.
People at Most Risk of Affecting by COVID-19

People most at risk of the infection of the novel coronavirus are people those who are in contact with the animals such as live animal market workers and those who are caring for people who are infected with the virus such as health care workers or family members.

Based on currently available information and clinical expertise, older adults and people of any age who have serious underlying medical conditions might be at higher risk for severe illness from COVID-19.

Groups at Higher Risk for Severe Illness

COVID-19 is a new disease and there is limited information regarding risk factors for severe disease. Based on currently available information and clinical expertise, older adults and people of any age who have serious underlying medical conditions might be at higher risk for severe illness from COVID-19.

The high-risk for severe illness from COVID-19 are:

- People 65 years and older
- People who live in a nursing home or long-term care facility

People of all ages with underlying medical conditions, particularly if not well controlled, including:

- People with chronic lung disease or moderate to severe asthma
- People who have serious heart conditions
- People who are immunocompromised
Many conditions can cause a person to be immunocompromised, including cancer treatment, smoking, bone marrow or organ transplantation, immune deficiencies, poorly controlled HIV or AIDS, and prolonged use of corticosteroids and other immune weakening medications.

- People with severe obesity (body mass index [BMI] of 40 or higher)
- People with diabetes
- People with chronic kidney disease undergoing dialysis
- People with liver disease

But with the current rate of human to human transmission we can easily say that everyone is at a very high risk of this disease.
**Signs and Symptoms of COVID-19**

- The most common symptoms of COVID-19 are fever, tiredness, and dry cough.
- Some patients may have aches and pains, nasal congestion, runny nose, sore throat or diarrhoea. These symptoms are usually mild and begin gradually.
- Some people become infected but don’t develop any symptoms and don’t feel unwell. Most people (about 80%) recover from the disease without needing special treatment.
- Around 1 out of every 6 people who gets COVID-19 becomes seriously ill and develops difficulty breathing.
- Older people, and those with underlying medical problems like high blood pressure, heart problems or diabetes, are more likely to develop serious illness.
- Some patients also advanced to other stages of illness where they developed Pneumonia, Bronchitis, Sepsis and can even lead to death.
- People with fever, cough and difficulty breathing should seek medical attention.
Diagnosis of COVID-19 is very important to contain the spread of the disease. For each stage of outbreak, a different testing strategy is adopted by health care departments as per the recommendations of Indian Council of Medical Research (ICMR) and World Health Organisation (WHO).

Testing Strategies: When it should be done

Stage 1 of Pandemic: Positive cases of only people have international travel history

Who should be tested:

a. All symptomatic people who have undertaken international travel
b. All asymptomatic people who have undertaken international travel

Stage 2 of Pandemic: Positive cases of only people have international travel history and limited local transmission

Who should be tested:

a. All symptomatic individuals who have undertaken international travel in the last 14 days
b. All symptomatic contacts of laboratory confirmed cases.
c. All symptomatic health care workers.
d. All hospitalized patients with Severe Acute Respiratory Illness
e. Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in his/her contact.

Stage 3 of pandemic: Start of Local Transmission of disease

Who should be tested:

a. All symptomatic individuals who have undertaken international travel in the last 14 days
c. All symptomatic contacts of laboratory confirmed cases
d. All symptomatic health care workers
e. All patients with Severe Acute Respiratory Illness
f. Asymptomatic direct and high-risk contacts of a confirmed case should be tested once between day 5 and day 14 of coming in his/her contact
g. In hotspots/cluster (as per MoHFW) and in large migration gatherings/ evacuees centres: All symptomatic people
How testing is done

A person who is tested will have three specimens taken: Oral, Nasal and Saliva. The infection can be diagnosed by the test called PCR or Polymerase Chain Reaction. This test identifies the virus based on its genetic fingerprint.

REFERENCES

1) https://openwho.org/channels/covid-19
2) https://ncdc.gov.in
3) https://www.mohfw.gov.in/
4) https://icmr.nic.in/content/covid-19
MODULE II - PROTECTION AGAINST NOVEL CORONA VIRUS

- Protective measures against Corona Virus
- Do’s & Don’ts
- Home care & Precautions
You can reduce your chances of being infected or spreading COVID19 by taking some simple precautions:

- **Wash your hands frequently**

  Regularly and thoroughly clean your hands even if your hands are not visibly dirty with an alcohol-based hand rub or wash them with soap and water. Washing your hands with soap and water or using alcohol-based hand rub kills viruses that may be on your hands.

- **Maintain social distancing**

  Maintain at least 1 metre (3 feet) distance between yourself and anyone who is coughing or sneezing. When someone coughs or sneezes they spray small liquid droplets from their nose or mouth which may contain virus. If you are too close, you can breathe in the droplets, including the COVID-19 virus if the person coughing has the disease.
- **Avoid touching eyes, nose and mouth**

  Hands touch many surfaces and can pick up viruses. Once contaminated, hands can transfer the virus to your eyes, nose or mouth. From there, the virus can enter your body and can make you sick.

- **Practice respiratory hygiene**

  Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately. Droplets spread virus. By following good respiratory hygiene you protect the people around you from viruses such as cold, flu and COVID-19.

- **If you have fever, cough and difficulty breathing, seek medical care early**

  Stay home if you feel unwell. If you have a fever, cough and difficulty breathing, seek medical attention and call in advance. Follow the directions of your local health authority.

  National and local authorities will have the most up to date information on the situation in your area. Calling in advance will allow your health care provider to quickly direct you to the right health facility. This will also protect you and help prevent spread of viruses and other infections.

- **Stay informed and follow advice given by your healthcare provider**

  Stay informed on the latest developments about COVID-19. Follow advice given by your healthcare provider, your national and local public health authority or your employer on how to protect yourself and others from COVID-19.

  National and local authorities will have the most up to date information on whether COVID-19 is spreading in your area. They are best placed to advise on what people in your area should be doing to protect themselves.
Protection measures for persons who are in or have recently visited (past 14 days) areas where COVID-19 is spreading

- Follow the guidance outlined above.
- Stay at home if you begin to feel unwell, even with mild symptoms such as headache and slight runny nose, until you recover. Avoiding contact with others and visits to medical facilities will allow these facilities to operate more effectively and help protect you and others from possible COVID-19 and other viruses.
- If you develop fever, cough and difficulty breathing, seek medical advice promptly as this may be due to a respiratory infection or other serious condition. Call in advance and tell your provider of any recent travel or contact with travellers. Calling in advance will allow your health care provider to quickly direct you to the right health facility. This will also help to prevent possible spread of COVID-19 and other viruses.
**Do’s & Don’ts**

**PROTECT YOURSELF AND OTHERS**  
**FOLLOW THESE DO’S AND DON’TS**

**DO’S**
1. Practice frequent hand washing. Wash hands with soap and water or use alcohol based hand rub. Wash hands even if they are visibly clean.
2. Cover your nose and mouth with handkerchief/tissue while sneezing and coughing.
3. Throw used tissues into closed bins immediately after use.
4. See a doctor if you feel unwell (fever, difficult breathing and cough). While visiting doctor wear a mask/cloth to cover your mouth and nose.
5. If you have these signs/symptoms please call State helpline number or Ministry of Health & Family Welfare’s 24X7 helpline at 011-23978046.
6. Avoid participating in large gatherings.

**DON’TS**
1. Have a close contact with anyone, if you’re experiencing cough and fever.
2. Touch your eyes, nose and mouth.
Home care & Precautions

Home Care is advised by WHO for the people with suspected or confirmed COVID-19:

- **FOR ILL PEOPLE**

  - If you ill with fever and cough, clean hands frequently with soap and water or with alcohol based hand rub.

  - Stay in separate room from other family members, but if not possible wear a mask and keep a distance of atleast 1 meter (3 feet) from other people. Keep the room well-ventilated and if possible use a dedicated bathroom.

  - Stay at home and do not attend work, school or public area. Rest and drink plenty of fluids and eat nutritious food.

  - When coughing or sneezing, cover mouth and nose with flexed elbow or use disposable tissue and discard after use. If you experience difficulty in breathing, call your health care facility immediately.

- **ALL MEMBERS OF HOUSEHOLD**

  - Wash hands with soap and water regularly, especially -after coughing or sneezing; before, during and after you prepare food; before eating; after use of toilet; before and after caring ill person; when hands are visibly dirty.

  - Avoid unnecessary exposure to the ill person and avoid sharing items, such as eating utensils, dishes, drinks and towels.

  - When coughing or sneezing, cover mouth and nose with flexed elbow or use disposable tissue and discard immediately after use.

  - Monitor everyone’s health for symptoms such as fever, cough and if difficult breathing appear, call your health care facility immediately.
Most people who get sick with COVID-19 will have only mild illness and should recover at home. Care at home can help stop the spread of COVID-19 and help protect people who are at risk for getting seriously ill from COVID-19. If you are caring for someone at home, monitor for emergency signs, prevent the spread of germs, treat symptoms, and carefully consider when to end home isolation.

*Note: Older adults and people of any age with certain serious underlying medical conditions like lung disease, heart disease, or diabetes are at higher risk for developing more serious complications from COVID-19 illness and should seek care as soon as symptoms start.

REFERENCES

1) https://www.mohfw.gov.in/
MODULE III- COVID-19 SELF ASSESSMENT

- Self check measures
- Steps to be taken if symptoms are observed
Self check measures

Information about COVID-19 is constantly changing. And the level of COVID-19 activity varies by community, as does the availability of testing. For current updates on COVID-19 and details on testing and other health measures in your state, check with your local public health agency and related website.

Self Assessment:

This will help you in determining whether you should visit a health care provider for further COVID-19 related assessment and testing or not:

Case-1:

Have you been in, or transited through any foreign Nation after 5th of March, 2020?
Ans: If Yes (Follow Below), If No (Skip to Next Case)

- Have you attended a 14 day Self Quarantine after leaving the country?
  Ans: If No (Follow Below), If Yes (If no Symptoms shown, you are safe)

- If you have a fever or respiratory symptoms?
  Ans: If Yes (Follow Below), If No (Go for Self Quarantine (14 Days) & Monitor Yourself)
Ring the COVID 19 24 Hours Hotline or Emergency department to arrange for testing & appropriate care.

**If you Test positive:** You will receive care at home or in hospital depending on the severity of your illness

**If you Test Negative:** If you were in self-quarantine continue to self-quarantine for the remainder of the 14 days or if you are a casual contact, continue to monitor yourself for the remainder of the 14 days.

**Case-2:**

Have you been in CLOSE contact* with a confirmed case of COVID-19?
**Ans:** **If Yes (Follow Below)**, **If No (Skip to Next Case)**

- Have you attended a 14 day Self Quarantine after the last day of Contact with a Positive Case?
  **Ans:** **If No (Follow Below)**, **If Yes (If no Symptoms shown, you are safe)**

  - If you have a fever or respiratory symptoms?
    **Ans:** **If Yes (Follow Below)**, **If No (Go for Self Quarantine (14 Days) & Monitor Yourself)**

  Ring the COVID 19 24 Hours Hotline or Emergency department to arrange for testing & appropriate care.

  **If you Test Positive:** You will receive care at home or in hospital depending on the severity of your illness

  **If you Test Negative:** If you were in self-quarantine continue to self-quarantine for the remainder of the 14 days or if you are a casual contact, continue to monitor yourself for the remainder of the 14 days.

* Note:  CLOSE contact is defined as: – Spending more than 15 minutes face-to-face with a person who is a confirmed case, in the 24 hours before they showed symptoms or once they showed symptoms

Sharing a closed space for more than two hours with a person who is a confirmed case, in the 24 hours before they showed symptoms or once they showed symptoms.
Case-3:

Have you been in CASUAL contact* with a confirmed case of COVID-19?

Ans: If Yes (Follow Below), If No (Skip to Next Case)

- Have you attended a 14 day Self Quarantine after the last day of Contact with a Positive Case?
  Ans: If No (Follow Below), If Yes (If no Symptoms shown, you are safe)

- If you have a fever or respiratory symptoms?
  Ans: If Yes (Follow Below), If No (Go for Self Quarantine (14 Days) & Monitor Yourself)

Ring the COVID 19 24 Hours Hotline or Emergency department to arrange for testing & appropriate care.

If you Test Positive: You will receive care at home or in hospital depending on the severity of your illness

If you Test Negative: If you were in self-quarantine continue to self-quarantine for the remainder of the 14 days or If you are a casual contact, continue to monitor yourself for the remainder of the 14 days.

* Note: CASUAL contact is defined as: – Spending less than 15 minutes face-to-face in any setting with a person who is a confirmed case AND they had symptoms at the time

Sharing a closed space for less than two hours with a person who is a confirmed case AND they had symptoms at the time.

Case-4:

Are you ill (pneumonia, fever, fatigue, respiratory symptoms)?
Ans: If Yes (Follow Below), If No (Skip)

Consult the Local Healthcare unit and consult them to arrange a Test.

If you Test positive: You will receive care at home or in hospital depending on the severity of your illness
If you Test Negative: If you were in self-quarantine continue to self-quarantine for the remainder of the 14 days or If you are a casual contact, continue to monitor yourself for the remainder of the 14 days.

If Any of the Above case does not match your present condition then:

You do not need to self-quarantine or be tested for COVID-19. You are safe. Testing is not recommended for you at the current time unless you have returned from overseas in the past 14 days. If you are unwell with any other illness your doctor will assess and manage you in the normal way.

Additional information for healthcare workers and residential care workers:

In addition to the above steps, the following information applies to healthcare workers and residential care workers who have direct contact with patients or residents.

- If you have an influenza-like illness, which is a fever above 99.5 degrees fahrenheit and symptoms of an acute respiratory infection (shortness of breath, cough, coryza and/or sore throat): –
- Do not go to work & ring the COVID-19, 24-hour hotline or emergency department, to arrange for testing and appropriate care.
- If you test negative you can return to work when well, at the direction of your treating doctor. A healthcare worker who has worn appropriate personal protective equipment while treating a patient does not become a close contact as a result of
that care. They may be a casual contact as a result of that care so should monitor themself for 14 days.

Steps to be taken if symptoms are observed

**Coronavirus (COVID-19)**

COVID-19 is a new coronavirus that has been identified as the cause of an outbreak of respiratory illness globally.

**SEVERE SYMPTOMS**
- High fever (100.4 or higher)
- Pneumonia

**PRIMARY SYMPTOMS**
- Fever
- Runny nose
- Dry Cough
- Shortness of breath
- Fatigue
- Body Aches

**TRANSMISSION**

Spread from person to person through sneezing or coughing.

Respiratory droplets containing the virus can remain on surfaces even after the ill person is no longer near.

Signs and symptoms of COVID-19 may appear two to 14 days after exposure and can include:

- Fever
- Cough
- Shortness of breath or difficulty breathing

Other symptoms can include:
● Tiredness
● Aches
● Runny nose
● Sore throat

Some people have experienced the loss of smell or taste.

The severity of COVID-19 symptoms can range from very mild to severe. Some people may have no symptoms at all. People who are older or who have existing chronic medical conditions, such as heart disease, lung disease or diabetes, or who have compromised immune systems may be at higher risk of serious illness. This is similar to what is seen with other respiratory illnesses, such as influenza.

**When to Seek Medical Attention**

If you have COVID-19 symptoms or you've been in contact with someone diagnosed with COVID-19, contact your doctor or clinic right away for medical advice. Tell your health care team about your symptoms and possible exposure before you go to your appointment.

If you have emergency COVID-19 signs and symptoms such as trouble breathing, chest pain or pressure, confusion, or blue lips or face, seek care immediately.

If you have respiratory symptoms but you are not and have not been in an area with ongoing community spread, contact your doctor or clinic for guidance. Let your doctor know if you have other chronic medical conditions, such as heart disease or lung disease. As the pandemic progresses, it's important to make sure health care is available for those in greatest need.
REFERENCES

MODULE IV – QUARANTINE AND ISOLATION

- Difference Between Quarantine and Isolation
- How to create isolation center in village
- SOP for isolation center
- Do’s and Don'ts
Isolation and quarantine help protect the public by preventing exposure to people who have or may have a contagious disease.

**Isolation** separates sick people with a contagious disease from people who are not sick.

**Quarantine** separates and restricts the movement of people who were exposed to a contagious disease to see if they become sick. These people may have been exposed to a disease and do not know it, or they may have the disease but do not show symptoms.

**Isolation:** Isolation is for people who are already sick.

- Isolation separates and restricts the movement of sick people so they can’t spread disease to healthy people.
- Isolation is a routine procedure in hospitals and healthcare facilities.
- Isolation is usually voluntary, but in a public health emergency, officials have the authority to isolate people who are sick.
**Quarantine:** Quarantine is for people who are not sick, but may have been exposed.

- Quarantined people may or may not become sick.
- Quarantined people may stay at home or another location so they don't spread disease to healthy people.
- If you are quarantined and you become ill, you can seek medical treatment from a healthcare provider.
- Quarantine can be voluntary, but in a public health emergency, officials have the authority to quarantine people who have been exposed to an infectious disease.

### COVID-19 prevention methods, explained

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<td>People who have been exposed to the virus and don't have symptoms.</td>
<td>People who think they have the virus or have tested positive for the virus.</td>
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<td>How long it's for:</td>
<td>Indefinitely.</td>
<td>14 days minimum.</td>
<td>At least 7 days from the onset of the symptoms.</td>
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<td>Who you can interact with:</td>
<td>Roommates, family members you live with.</td>
<td>No direct contact.</td>
<td>Stay in a room alone if you live with people or in your house if you live alone.</td>
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<td>Have friends/family/delivery services drop off supplies but don't touch or talk to them.</td>
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<td>What you can do:</td>
<td>Go for a solitary walk, hike, or jog. Let employees work from home.</td>
<td>Stock up on food and water — have it delivered and don't interact directly with the delivery person.</td>
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<td>How to socialize:</td>
<td>Cancel any unnecessary gatherings/ plans.</td>
<td>Don't leave your house aside from emergencies.</td>
<td>No face-to-face interaction. Maintain a six foot distance from roommates/family. Facetime dates, phone calls and virtual communication are all acceptable.</td>
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During a pandemic like COVID-19, officials may ask all individuals to shelter in place for weeks or longer. The term means you will have to stay in your home, only leaving for essential activity. To prepare to shelter in place activities include:

- Anything essential to you or your family’s health and safety – picking up medicine, visiting a doctor or gathering supplies to work from home.
- Buying supplies for yourself or others, especially groceries.
- Going for a run, hike or other outdoor activities – make sure proper social distancing is observed.
- Caring for a family member or pet in another household.
- Performing work at an essential business, such as healthcare, grocery stores and law enforcement.
Social Distancing

COVID-19

Social distancing

Maintain 1.8 metre (6 feet) of distance at all times if in public

Social distancing, also called “physical distancing,” means keeping space between yourself and other people outside of your home. To practice social or physical distancing:

- Stay at least 6 feet (2 meters) from other people
- Do not gather in groups
- Stay out of crowded places and avoid mass gatherings

In addition to everyday steps to prevent COVID-19, keeping space between you and others is one of the best tools we have to avoid being exposed to this virus and slowing its spread locally and across the country and world.

When COVID-19 is spreading in your area, everyone should limit close contact with individuals outside your household in indoor and outdoor spaces. Since people can spread the virus before they know they are sick, it is important to stay away from others when possible, even if you have no symptoms. Social distancing is especially important for people who are at higher risk of getting very sick.
Isolation refers to separation of individuals who are ill and suspected or confirmed of COVID-19. All suspect cases detected in the containment/buffer zones (till a diagnosis is made), will be hospitalized and kept in isolation in a designated facility till such time they are tested negative. Persons testing positive for COVID-19 will remain to be hospitalized till such time 2 of their samples are tested negative as per MoHFW’s discharge policy.

There are various modalities of isolating a patient. Ideally, patients can be isolated in individual isolation rooms or negative pressure rooms with 12 or more air-changes per hour. In resource constrained settings, all positive COVID-19 cases can be cohorted in a ward with good ventilation. Similarly, all suspect cases should also be cohorted in a separate 2 ward. However under no circumstances these cases should be mixed up. A minimum distance of 1 meter needs to be maintained between adjacent beds. All such patients need to wear a triple layer surgical mask at all times.
Guidelines: Setting up isolation facility/ward

- At State level, a minimum of 50 bed isolation wards should be established.
- At District level, a minimum of 10 bed isolation wards should be established.
- Post signages on the door indicating that the space is an isolation area.
- Remove all non-essential furniture and ensure that the remaining furniture is easy to clean, and does not conceal or retain dirt or moisture within or around it.
- COVID-19 patients should be housed in single rooms.
- However, if sufficient single rooms are not available, beds could be put with a spatial separation of at least 1 meter (3 feet) from one another.
- To create a 10 bed facility, a minimum space of 2000 sq. feet area clearly segregated from other patient care areas is required.
- Preferably the isolation ward should have a separate entry/exit and should not be co-located with post-surgical wards/dialysis unit/SNCU/labour room etc.
- It should be in a segregated area which is not frequented by outsiders.
- The access to the isolation ward should be through dedicated lift/guarded stairs.
- There should be a double door entry with a changing room and nursing station. Enough PPE should be available in the changing room with waste disposal bins to collect used PPEs. Used PPEs should be disposed as per the guidelines.
- Stock the PPE supply and linen outside the isolation room or area (e.g. in the change room). Setup a trolley outside the door to hold PPE. A checklist may be useful to ensure that all equipment is available.
- Place appropriate waste bags in a bin. If possible, use a touch-free bin. Ensure that used (i.e. dirty) bins remain inside the isolation rooms.
- Place a puncture-proof container for sharps disposal inside the isolation room/area and bio-medical waste should be managed as per the BMW M guidelines.
- Keep the patient’s personal belongings to a minimum. Keep water pitchers and cups, tissue wipes, and all items necessary for attending to personal hygiene within the patient’s reach.
- Non-critical patient-care equipment (e.g. stethoscope, thermometer, blood pressure cuff, and sphygmomanometer) should be dedicated for the patient, if possible. Any patient-care equipment that is required for use by other patients should be thoroughly cleaned and disinfected before use.
- Place an appropriate container with a lid outside the door for equipment that requires disinfection or sterilization.
- Ensure that appropriate hand washing facilities and hand-hygiene supplies are available. Stock the sink area with suitable supplies for hand washing, and with alcohol-based hand rub, near the point of care and the room door.
- Ensure adequate room ventilation. If the room is air-conditioned, ensure 12 air changes/ hour and filtering of exhaust air. A negative pressure in isolation rooms is desirable for patients requiring aerosolization procedures (intubation, suction nebulisation). These rooms may have standalone air-conditioning. These areas should not be a part of the central air-conditioning.
- If air-conditioning is not available negative pressure could also be created through putting up 3-4 exhaust fans driving air out of the room.
- The isolation ward should have a separate toilet with proper cleaning and supplies.
- Consider having designated portable X-ray and portable ultrasound equipment.
- Corridors with frequent patient transport should be well-ventilated.
- All health staff involved in patient care should be well trained in the use of PPE.
- Set up a telephone or other method of communication in the isolation room or area to enable patients, family members or visitors to communicate with health-care workers. This may reduce the number of times the workers need to don PPE to enter the room or area.
**Do’s & Don’ts**

**Do’s**

- Ensure regular cleaning and proper disinfection of common areas, and adequate hand hygiene by patients, visitors and caregivers.
- Ensure that visitors consult the health-care worker in charge (who is also responsible for keeping a visitor record) before being allowed into the isolation areas.
- During the isolation period, possible patients should be daily monitored for fever and respiratory symptoms.
- Monitoring visits need to be conducted inside isolation facilities and outside the facility in the surrounding campus by public health and incharge officers and gaps to be noted.
- Ambulances need to be placed in the facility in standby mode for transport, including advanced lifesaving ambulance.
- Disposable and pre-packed food needs to be served to quarantined people and they are to be kept on separate beds with distance of 1-2 metres with no bed facing opposite to each other.
- For baseline testing, samples (nasopharyngeal swab and throat swabs) for COVID-19 need to be collected from all quarantine people and sent with triple layer packaging maintained in a cold chain (2-8 degrees Celsius) to the designated laboratory and not elsewhere.
- In the isolation ward, the chief medical officer needs to be appointed as incharge or nodal officer for overall coordination and supervision of the isolation centre.
- Services of general duty medical doctors, medicine specialists, pediatrics, microbiologists (for diagnostic support and IPC), psychiatrists and psychologists are required for routine examination and relevant clinical care.
- Paramedics, including staff nurses and lab technicians, pharmacists need to be posted
- Public health specialists are required for monitoring public health aspects of the facility, while services of clinical microbiologists are required for sample collection, packaging and infection prevention and control practices, it said, adding that housekeeping staff also needed to be deployed.

**Don’ts**

- Healthcare workers shouldn’t use soiled or PPE. Furthermore, they need to be sensitised on the correct usage.
- Don’t share medical equipment, ensure that reusable equipment is appropriately disinfected between patients.
- Remove PPE in a manner that prevents self-contamination or self-inoculation with contaminated PPE or hands.
REFERENCES

1) National Centre for Disease Control - COVID -19 Outbreak Guidelines for Setting up Isolation Facility/Ward (https://ncdc.gov.in/WriteReadData/l892s/42417646181584529159.pdf)
4) https://dot.gov.in/sites/default/files/Revised_Corona_ad_Eng.pdf?download=1
6) https://ncdc.gov.in/WriteReadData/l892s/90542653311584546120.pdf
7) https://www.cdc.gov/quarantine/index.html
MODULE V: MASKS & SANITIZERS FOR COVID-19

- What is a mask?
- Making Masks at Home
- What is Hand Sanitizer?
- Making Sanitizers at home
MODULE V: MASKS & SANITIZERS FOR COVID-19

What is a mask?

A mask is a loose-fitting, disposable device that creates a physical barrier between the mouth and nose of the wearer and potential contaminants in the immediate environment. If worn properly, a mask is meant to help block large-particle droplets, splashes, sprays, or splatter that may contain viruses and bacteria, keeping it from reaching the wearer’s mouth and nose (US-FDA). Although mask is not considered as a guaranteed shield against Coronavirus infection, masks are effective at capturing droplets, which is a main transmission route of coronavirus infection. With growing number of Coronavirus (Covid-19) infections across the World and India, authorities are urging people to use face masks to limit the spread of Covid-19.

When to use face Masks?

- While taking care of Covid-19 patients or suspected patients
- Wear a mask if you are coughing or sneezing
- When outside home for emergency works
- While going out to markets/shops to bring groceries & essentials

Using face masks?

- Before putting on a mask, thoroughly wash your hands using soaps or alcohol based sanitizers
- Put on the mask covering mouth and nose, ensure that there is no gaps between your face and the mask
- Avoid touching the mask while using it; if you do thoroughly clean your hands using soaps/alcohol based sanitizers
- While removing the mask remove it from behind (don’t touch the front of the mask)
- Discard/dump in a closed dustbin if it is an once-use mask or wash it using hot water and liquid disinfectant
- Finally, wash your hands thoroughly using soaps/alcohol based sanitizers

Where to get a mask?

Surgical masks and N-95 masks are easily available at authorised medicine stores. With rising demand of masks due to Covid-19 outbreak there is a short supply of masks across the markets. Currently governments, authorities, NGOs and other organisations are distributing masks at various locations. You can also make your own masks at home using basic household materials.
Making Masks at Home

Materials Required:

1- A square size cotton or a men’s cotton handkerchief
2- Two rubber bands/ elastics/ hair band

Before using the materials, thoroughly wash them using warm water and liquid disinfectant or simply warm water. Then let them dry

*Steps to follow for making effective face masks at home:*

Step 1: Fold the handkerchief from one-side to slightly above the middle portion of the cloth
Step 2: Now fold over the other edge to go above the first fold
Step 3: Fold it again from the middle

Step 4: Tie the rubber bands at both side of the cotton, ensure that the area in the middle is large enough to cover your mouth and nose
Step 5: Take one edge of the cloth on the side of the rubber band and fold over it. Do this for both sides
Step 6: Take one fold and insert into other fold
You mask is now ready! Put it on your face covering your mouth and nose, wrap each rubber band around your ears.
**What is Hand Sanitizer?**

Hand sanitizer is a liquid or gel generally used to decrease infectious agents on the hands. A hand sanitizer is normally made by mixing Alcohol with other ingredients like water, gels, perfumes etc. A usable solution of hand sanitizer must contain at least 60% Alcohol to be effective to kill germs and other infectious agents. Alcohol-based hand sanitizers can quickly reduce the number of microbes on hands in some situations, but sanitizers do not eliminate all types of germs.

**When to use Hand Sanitizers?**

- While in hospitals and other health care facilities
- When you don’t have access to water and soaps to clean hands
- While travelling outside
- After touching multiple outside objects

**Using Hand Sanitizers?**

- Apply the liquid on the palm of one hand
- Rub both the hands together
- Cover all the surfaces until hands feel dry (Approx. 20 seconds)

**Where to get Hand-sanitizers?**

Hand sanitizers are easily and widely available in authorised medical shops, super markets, grocery shops etc. But due to huge demand of alcohol-based hand sanitizers now it’s difficult to get hand sanitizers in markets. Also, a number of duplicate and sub-standard products are flooded in the markets. While buying hand sanitisers, it is recommended to buy a branded one. Else, one should check the ingredients section of the sanitizer packet to know whether it contains at least 60% of alcohol.
Making Sanitizers at Home

Is it possible to prepare hand sanitizers at home? Well, it is a difficult question to answer. Actually making hand sanitizers at home is a technical and cumbersome process. Also, collecting raw materials at current situation is a difficult task to do. As per information available on the public domain, no credible sources recommend making hand sanitizers at home. So it is definitely a better and safer way to use soaps and water to clean your hands frequently to keep you safe from coronavirus.

The Centre for Disease control and prevention (CDCP, Govt. of USA) recommends hand washing using soap and water is a safer and more effective way than using hand sanitisers. Get to know how to wash hands properly from the following graphical representations as recommended by the World Health Organisation (WHO).

**CORRECT WAY OF WASHING HANDS**

1. Wet hands with water
2. Rub hands palm to palm
3. Right palm over left dorsum with interaced fingers and vice versa
4. Palm to palm with fingers interaced
5. Backs of fingers to opposing palms with fingers interlocked
6. Rotational rubbing of left thumb clasped in right palm and vice versa
7. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.
8. Rinse hands with water
9. Dry thoroughly with a single-use towel
10. Use towel to turn off faucet
11. ...and your hands are safe.
REFERENCES

4) https://www.cdc.gov/handwashing/show-me-the-science-hand-sanitizer.html
6) https://www.who.int/gpsc/5may/Guide_to_Local_Production.pdf
7) https://www.who.int/gpsc/clean_hands_protection/en/
MODULE VI – IMPORTANT CONTACTS
Following are the state wise helpline numbers for corona care:

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Indian Government and WHO Websites links for Covid-19 updates:

https://www.mygov.in/hi/covid-19/
https://www.mohfw.gov.in/
https://indianhelpline.com/hi/
https://www.who.int/emergencies/diseases/novel-coronavirus-2019

Aarogya Setu App:

Aarogya Setu is a coronavirus tracking app launched by the Government of India on 02\textsuperscript{nd} April, 2020. It is the first official coronavirus tracking app in the country.

It is a mobile application developed to connect essential health services with the people of India in our combined fight against COVID-19. The App is aimed at augmenting the initiatives of the Government of India, particularly the Department of Health, in proactively reaching out to and informing the users of the app regarding risks, best practices and relevant advisories pertaining to the containment of COVID-19.

Aarogya Setu app will help the people of the country to know about the exact situation of the coronavirus. The app is available for both android and iPhone users and mobile phone users can download it from play store or Apple's App Store.

The Aarogya Setu app will use the location of the Smartphone and Bluetooth to determine whether you had come in contact with a positive person. This app is totally dedicated to COVID-19. It will also tell you whether you are in and around a high-risk zone. If any of the contacts tested positive, the app will calculate the risk of infection.

How to use Aarogya Setu App:

- First Install the app
- Switch on Bluetooth and Location
- Set the location sharing to ‘Always’.
- When the app is installed in a Smartphone it will detect other devices with Aarogya Setu installed that come in proximity of that phone. The app currently supports 11 languages, including Hindi and English.
After installing the app, it will ask for the desired language making it more accessible.

It is required to register your mobile number and provide necessary details like name, age, profession, international travel.

After submitting the details, it will cross-checks the detail present in the government database and uses the proximity of Bluetooth and suggests whether you are safe or not.

In case you are not safe then the app will suggest you to isolate and take precautions.

Note: Data provided by the user is said to be encrypted and it is also sent to the government's server anonymously.

The app will also check the user’s location of around six feet that is whether he or she was in the proximity of an infected patient by using the device Bluetooth. The app will show that you are at a 'high risk' or not. In case you are at a high-risk area then the app advises you to go for a test and call the toll-free number 1075 to schedule an appointment at the nearby testing centre.

This app will also suggest preventive measures tips for coronavirus. In case, if a person is tested positive for COVID-19 or has been in contact with the person then the app will share data with the government. Also, the privacy policy of the app is not to share data by third-party users.

REFERENCES