Training Module for Nurses and Midwives in Response to COVID 19

Directorate General of Nursing and Midwifery
Ministry of Health and Family Welfare

UNFPA

AYAT EDUCATION

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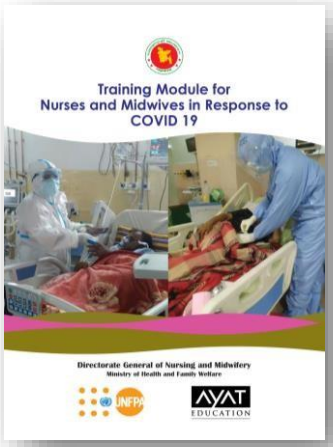

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AYAT EDUCATION

Siddika Akter
Director General
Directorate General of Nursing and Midwifery
Ministry of Health and Family Welfare

It is my great pleasure to inform all that DGNM has taken a significantly important step to upgrade the knowledge and skills of the newly recruited nurses with a very targeted learning program with the title '**Training for Newly Recruited Nurses and Midwives in Response to COVID 19 Outbreak'** in collaboration with AYAT Education Ltd, a social enterprise engaged in advancing nursing education and capacity development of health care professionals of Bangladesh since 2017. Thanks to UNFPA Bangladesh for coming forward with the financial support.

The first batch of the training program will begin with 150 nos. in December, 20, which will be part of a long run program to train the newly recruited nurses by batches in the next phase of the program. Considering the urgent need of the hospitals in the first wave of COVID 19 period, the government of Bangladesh has taken up a very timely step by recruiting over five thousands of staff nurses who are instantly deployed in hospitals across the country. There was no time of professional orientation during that critical period. But from DGNM office, we felt the need of a professional training for the new batches to give them the required skills and confidence of handling the COVID 19 cases as well as to ensure their own personal safety.

AYAT Education technical team along with UNFPA experts and under the guidance of our office, has carefully chalked out the training sessions with a variety of practical issues which all are important and relevant to the work situation of our nursing professionals.

The training program is expected to help the target group to gain professional knowledge and skills for COVID response, preparedness & to undertake personal safety measures.

I am confident that on completion of the training program, the newly recruited trained nurses will be better equipped, and they will be able to make contributions in saving the lives of COVID patients, as well as to take care of their personal safety from COVID 19.

Signature

Asa Tarkelsan

Country Representative
UNFPA Bangladesh

Signature

AYAT
EDUCATION

Nusrat Feroz Aman
Chief
Patron AYAT
Education

It is with great pleasure that we bring to you this joint training program for the Newly Recruited Nurses and Midwives in Response to COVID 19 Outbreak. The training program begins with a TOT from 01 December, 2020. This program aims to provide critical and practical knowledge, skills and know-how on the COVID 19 issues to help the newly recruited nurses to prepare and orient themselves on related issues of COVID 19 for their own safety as well as how to serve their patients more efficiently. They will receive training on how to break the chain of infection in the community and learn proper usage of Personal Protection Equipment.

This Training Manual is developed by AYAT Education with the generous guidance and support of the honorable Director General of the Directorate of Nursing and Midwifery (DGNM) and her office and with the technical valuable inputs of the team members of UNFPA, Bangladesh with utmost care to fulfill the objective of this special targeted training program on COVID 19 preparedness and response issues. I hope the participants will find this training program beneficial to them.

On behalf of AYAT Education, I take the privilege to thank the office of DGNM, UNFPA Team and to our own support group at home and abroad led by Prof. Dr. Bimalangshu Dey of Massachusetts General Hospital and Nurse Educators' team led by Prof Anne Marie Barron of Simmons University, Boston.

I hope, the Manual will play a significant role in equipping our newly recruited nurses with required confidence, courage and professionalism in managing COVID 19 outbreak.

Signatur
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Acknowledgem

This program would not have been possible without the support and guidance of Honorable Director General Siddika Akter, Directorate General Nursing and Midwifery, Ministry of Health and family Welfare, Government of Peoples' Republic of Bangladesh. We are grateful to her of her valuable leadership to advance Nursing education and training and develop this very important sector.

We wholeheartedly acknowledge the support and guidance of UNFPA Bangladesh for guiding us to make this program a reality.

We express our heartfelt gratitude to Prof Bimalangshu Dey, Harvard Medical School and Massachusetts General Hospital for his constant support in developing this curriculum. He and his team from Boston along with the Nurse educators of Simmons University under the leadership of Professor Anne Marie Barron, Assoc. Dean, College of Natural Behavior and Health Sciences, Simmons University have provided the materials for making this course a comprehensive one. Their commitment and dedication to advance nursing education for Bangladeshi nurses have made this program and many other capacity development programs possible.

Training

- Capacity Development of Newly Recruited Nurses and Midwives on COVID 19 Preparedness
- Infection Prevention concept and practices including role of PPE
- Triaging patients safely
- Physical and Mental Wellbeing of the Frontline workers
- Case Management discussions for COVID Patients with underlying health conditions like diabetes, hypertension, and other complication
- Safe Childbirth, Antenatal and Post Natal Care in times of COVID
- Leadership skills and Mentorship traits

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Sl.	Abbreviation	Meaning	Page
	HIV	Human Immunodeficiency Virus	
	AIDS	Acquired Immunodeficiency Syndrome	
	SARS	Severe Acute Respiratory Syndrome	
	COV	Covid-19	
	ACE 2	Angiotensin-converting Enzyme 2	
	PTSD	Post-traumatic Stress Disorder	
	RNA	Ribonucleic Acid	
	ECMO	Extracorporeal Membrane Oxygenation	
	PPE	Personal Protective Equipment	
	BIPAP	Bilevel Positive Airway Pressure	
	CPAP	Continuous Positive Airway Pressure	
	HFOV	High Frequency Oscillatory Ventilation	
	NP	Nasopharyngeal	
	OP	Oropharyngeal	
	RT-PCR	Reverse Transcription Polymerase Chain Reaction	
	AST	Aspartate Aminotransferase	
	ALT	Alanine aminotransferase	
	INR/PT	Prothrombin Time and International Normalized Ratio	
	CT	Computerized Tomography	

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Prefac

The present curriculum is an outcome of collaboration between AYAT Education and Directorate General of Nursing and Midwifery (DGNM). The objective of this collaboration is to conduct Training of Frontline Health Workers with an aim to develop capacity for the management of COVID and non COVID patients in the hospitals and community – targeting the newly recruited nurses and midwives of DGNM.

In this difficult time of a global pandemic, most public and private hospitals of Bangladesh have gone beyond their capacity in treating patients and the scarcity of the number of nurses per doctor still prevails. The Ministry of Health, Directorate General of Health Services, DGNM, Public and Private hospitals and the development partners including UNFPA and WHO have expressed the dire need and deep concerns of developing the capacity of our existing Healthcare workers, as well as recruiting new members to the health workforce. Frontline health workers including nurses are exposed and testing positive while handling and taking care of COVID positive patients. In such circumstances, nurses need to take care of their mental and the physical health and hence their capacity development for themselves and their patients are utmost necessary.

AYAT Education in partnership with UNFPA, along with the encouragement of Directorate of Nursing and Midwifery (DGNM), will give an intense short course to nurses, who are mostly fresh graduates and midwives of DGNM to strengthen their professional capacity with the title of a program ‘COVID Preparedness, Prevention and Personal Safety Measures for the newly recruited Nurses & Midwives’

This curriculum is equipped with knowledge and expertise on keeping our nurses safe, secured and of sound mental health while provide adequate care to their patients. AYAT Education in collaboration with DGNM and UNFPA, aims to build the capacity and strengthen the knowledge of the freshly recruited nurses, so that they can serve their patients, themselves and our country as a whole.

DAY ONE

Topic	COVID 19 Background and Pathophysiology and Background
Objectives	1. Understanding the evolutionary path of this virus into human 2. Understanding how the virus causes damage to the host

Topic	How is COVID 19 transmitted - Spreads and Breaking the Chain of Infection
Objectives	1. Understanding the fundamentals for the spread of this virus with a historical background 2. How this transmission can be potentially stopped

Topic	Personal Protection and Isolation Procedures
Objectives	1. To learn the basics important for self-protection 2.The Learners to receive detailed education and training on protective equipment such as surgical masks, N 95, Face shields, safe distancing

Quick Assessment

DAY ONE

Topic	COVID 19 Background and Pathophysiology
Objectives	1. Understanding the evolutionary path of this virus into human 2. Understanding how the virus causes damage to the host

Epidemic: An outbreak, a disease affecting a disproportionately large number of people within a community
Pandemic: Epidemic occurring worldwide

Worst Pandemics in A Century:

Flu Pandemic, "Spanish Flu" (1918-1920): death toll 20-50 million, 500 million infected, 1/3rd population. Had three waves
Asian Flu (1956-1958): death toll 2 million
Flu Pandemic (1968): death toll 1 million
HIV/AIDS Pandemic (Peak 2005-12): 36 million
SARS-Cov-1 (2002-2003): started in china, animal handlers, spread to 32 countries, 8422 affected, 919 died

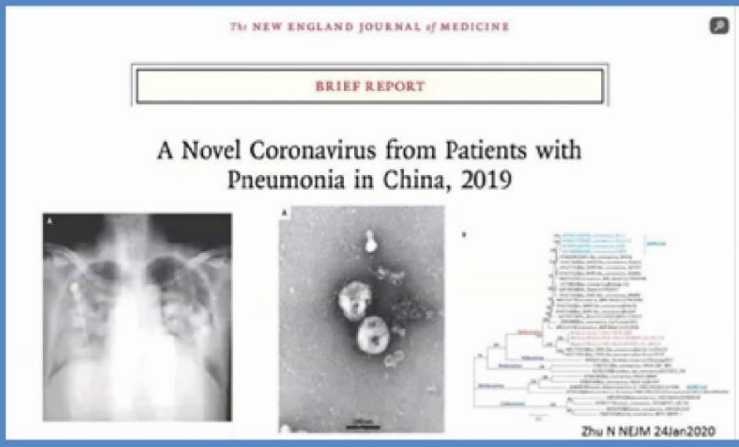


Fig 1 : A Novel CoV-19 patient with Pneumonia

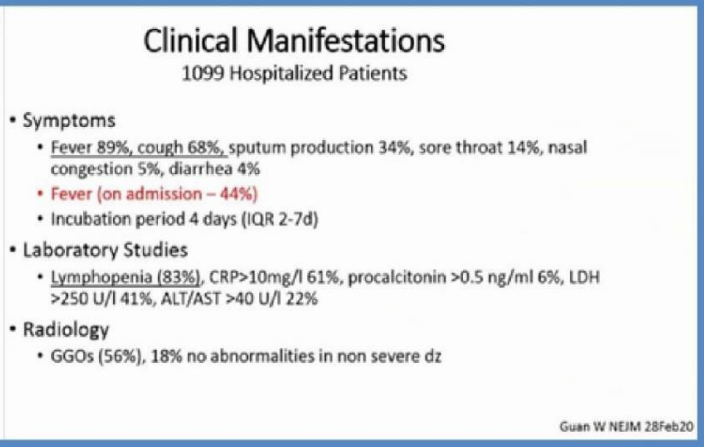


Fig 2 : Clinical Manifestations of CoV-19 Patients

Transmission

Three Primary Ways:
- Close person-to-person contact
- Aerosol: respiratory droplets during coughing or sneezing
- Touch

Clinical Manifestations of COVID-19: Take home message

- COVID-19 is not influenza
- Prolonged shedding of virus presents a major challenge
- Optimal clinical management is not yet determined
- Long-term sequelae unclear

DAY ONE

Good News.....

1.Around 80% of COVID-19 patients will not need hospital care

2.Only 20-30% of those in the hospital will require ICU level care

3. Only 2-5% will ultimately die: CFR

Bad News.....

1.Another 10% of those hospitalized are left to live with significant morbidity

2. Patient and the family: PTSD

High-Risk Patients

Elderly, Obesity, Hypertension, Diabetes Mellitus

Comorbid Illnesses: cardiac disease, pulmonary disease, renal failure

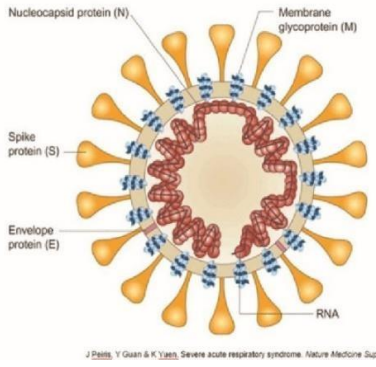


Fig 3 : Schematic diagram of Coronavirus structure

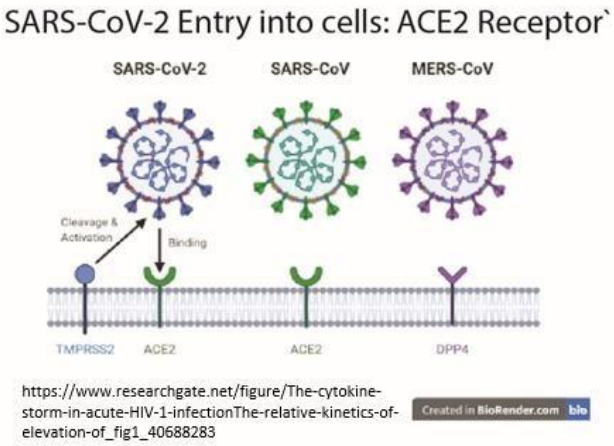


Fig 4 : SARS-CoV-2 Entry into cells

- Enveloped positive sense single strand RNA virus
- Genomic analyses reveals Bat-derived source
- More than 7 cross-species transmissions in the past, increasing recently

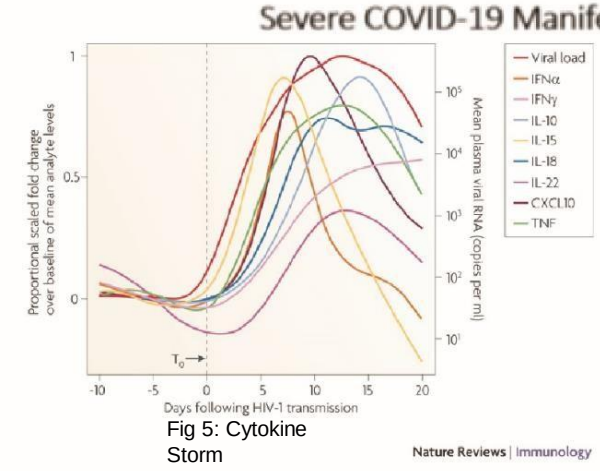


Fig 5: Cytokine Storm

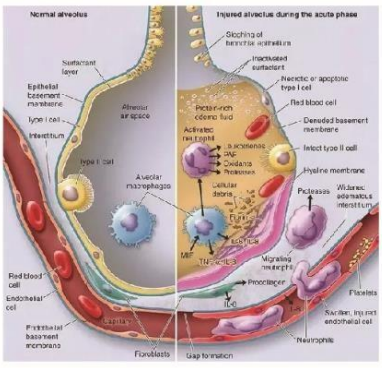


Fig 6: Lung condition during Severe CoV-19 manifestations

DAY ONE

UNUSUAL FEATURES OF THE 1918-20 INFLUENZA PANDEMIC

3 successive waves between 1918-20 with unexpectedly high mortality (>5% of the world's population died)

Paradoxical mortality: increased in young and previously healthy, decreased in the elderly

https://www.cressiclaire.com/

Comparisons of 1918 Influenza, SARS and COVID-19

	Flu-1918	SARS	COVID-19
Transmission	Respiratory	Respiratory	Respiratory
Reservoir	Bird/swine	Bat?/civet?	Bat?/other?
Global cases	>500 million	8098	????
Deaths	20-100 million	774	????
Deaths in US	675,000 (est)	0	????
Death rate	2-3% (est)	10%	< 2% (est)
Peak age	20-40	>60	>60
Subsequent yrs.	Yes	No	????

Monto et al. and other data

- Known coronaviruses, including SARS-CoV-1, are highly seasonal.
- We don't know whether SARS-CoV-2 will fit that pattern
- Antibody to coronavirus appears type-specific and protective; for SARS-CoV-1, this may persist for at least 2-6 years

COVID-19 Cases Worldwide:
(as of November 09, 2020)
50,975,025

Deaths Worldwide:
1,265,443

Recovered:
35,925,828

Means of flattening the curve: reducing social contacts

- Social distancing: cancelling public gatherings, closing houses of worship, restaurants, etc
- Improving ventilation and humidification of buildings
- Allowing paid sick leave for all workers for COVID – fix the incentives for presenteeism (esp in health care settings)
- Considering school closing
- Working from home where possible

https://www.nytimes.com/2020/03/04/opinion/coronavirus-buildings.html

Slide 27

DAY ONE

What do we need to do? #flattenthecurve

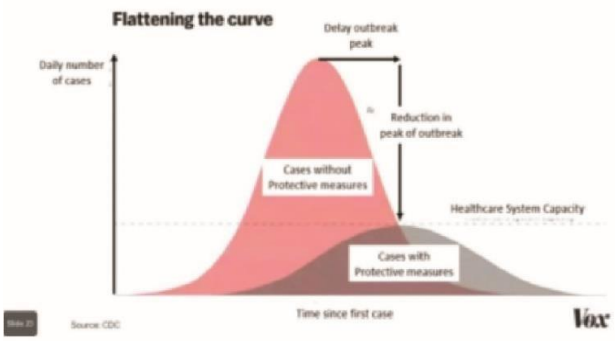


Fig 7: Flattening the Curve

We can stop the outbreak, a surge if we do 3 things seriously

- Social Distancing
- Rigorous Handwashing
- Wear masks appropriately

Assume "you are a carrier, so you can transmit the virus", because around 40% of transmission is happening from pre-symptomatic or asymptomatic infected individuals

Treatment - Management

Supportive Care

- Anti-bacterial antibiotics
- Anti-viral antibiotics: remdesivir
- Anti-thrombotic
- Anti-inflammatory drugs: dexamethasone, IL-6 inhibitor (Tocilizu
- Convalescent Plasma
- Mechanical Ventilation, ECMO, Hemodialysis
- Vaccines

"If you know the enemy and know yourself, you need not fear the result of a hundred battles." Sun Tzu

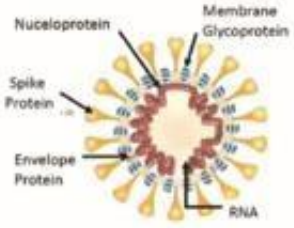


Fig 8: Structure of CoV-19 Virus

- Plus-strand RNA virus with a very large genome (30kb)
- Encodes non-structural proteins key to replication and pathogenicity
- These include target types that have been been the successfully exploited for antiviral development for other viruses
  - Two cysteine proteases
  - An RNA-dependent RNA polymerase (RdRp)

COVID-19 Vaccines: Timeline

BIDMC – Ragon – China CDC – Janssen Collaboration

- **Jan 10: virus sequence released**
- **Jan 13: synthetic genes ordered; DNA and Ad vectors designed**
- **Jan 31: Ad26 collaboration with Janssen**
- **Feb 6: Mice immunized**
- **Feb 12: Rhesus monkeys immunized**
- **Feb 14: DNA vaccine collaboration with China CDC**
- **Feb 24: Virus challenge stock produced**
- **Mar 2: Infection of mice, ferrets, monkeys to establish animal models**
- **Mar 2020: GMP manufacturing of Ad26 vaccine planned**
- **Oct 2020: Phase 1/2a studies with Ad26 vaccine planned**
- **Jan 2021: Upscaling to 300+ million doses of Ad26 vaccine planned**

DAY ONE

Topic	How is COVID 19 transmitted - Spreads and Breaking the Chain of Infection
Objectives	1. Understanding the fundamentals for the spread of this virus with a historical background 2. How this transmission can be potentially stopped

Goal: How to reduce the risk of transmission

Specific objectives
1. Understand the main routes of transmission of COVID-19
2. Describe the 5 main ways to prevent transmission and break the chain of infection transmission

In addition
- Understand the virus and where it came from
- How to correctly don and doff a mask

The virus SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2)

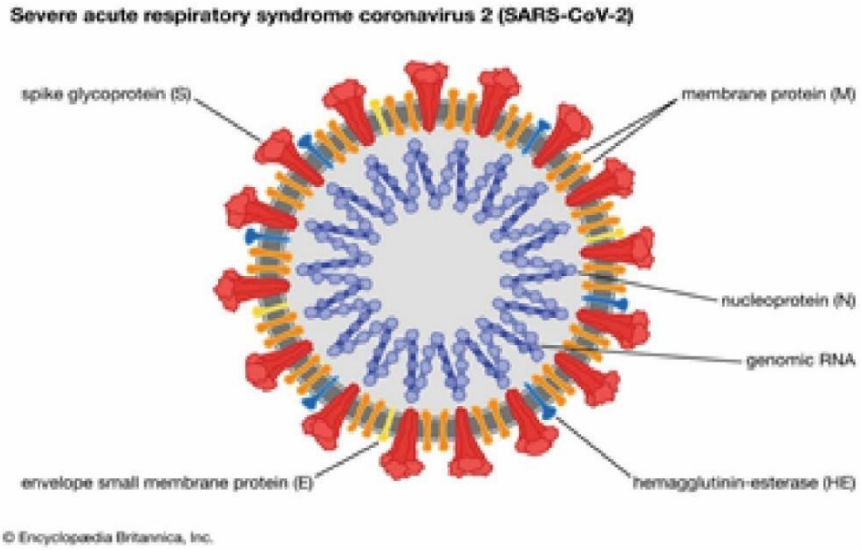


Fig 9: Formation of SARS-CoV-2

- Originated in China, most likely from live animal market (wet market)
- Coronavirus: novel enveloped virus that causes severe respiratory illness
- Data for Bangladesh

Who is most at risk for severe illness and death?

Older adults
https://www.cdc.gov/coronavirus/2019-ncov/-covid-data/investi-gations-discovery/hospitalization-death-by-age.html

People of any age with certain underlying conditions are at increased risk for severe illness
https://www.cdc.gov/coronavirus/2019-ncov/-covid-data/investi-gations-discovery/hospitalization-underlying-medical-conditions.html

DAY ONE

Main routes of virus transmission

1. Aerosols
2. Droplets
3. Hand contact, direct via touch or indirect via fomites such as hand contact surfaces
4. Pre-symptomatic and Asymptomatic transmission especially involving children

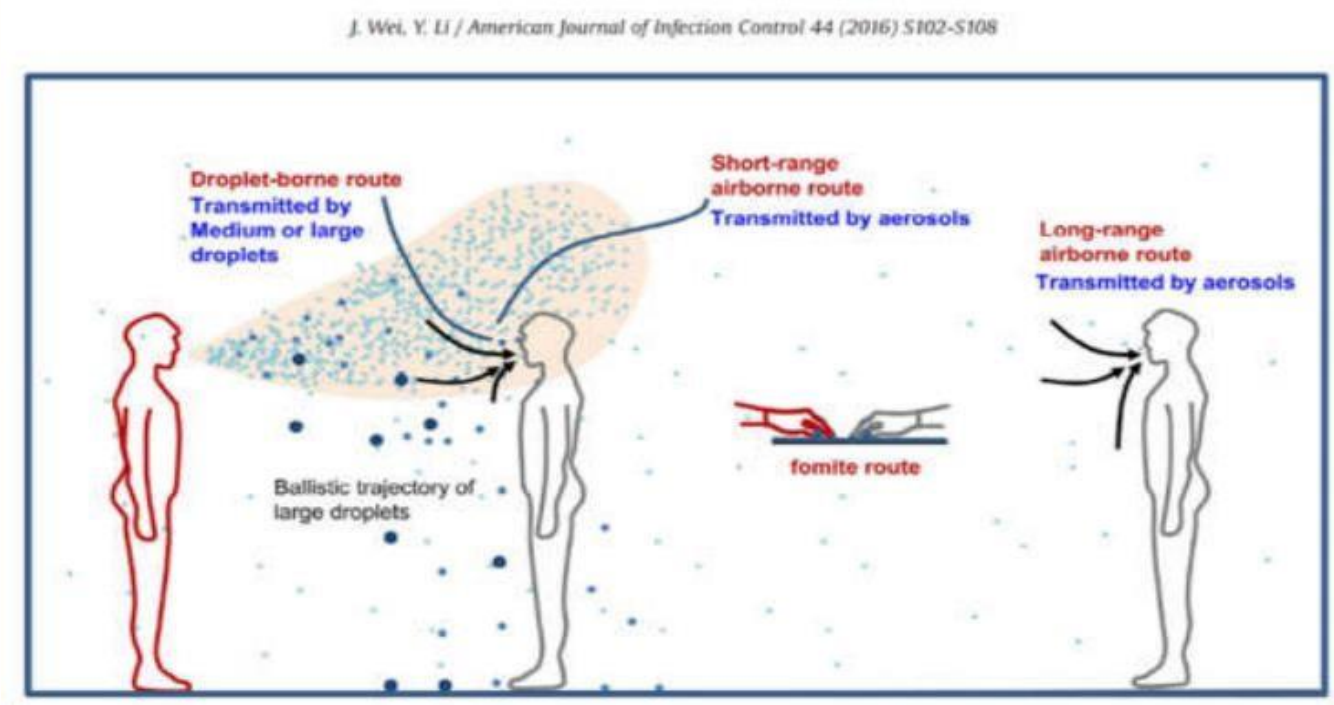


Fig 10: Main routes of virus transmission

Breaking the chain of respiratory infections

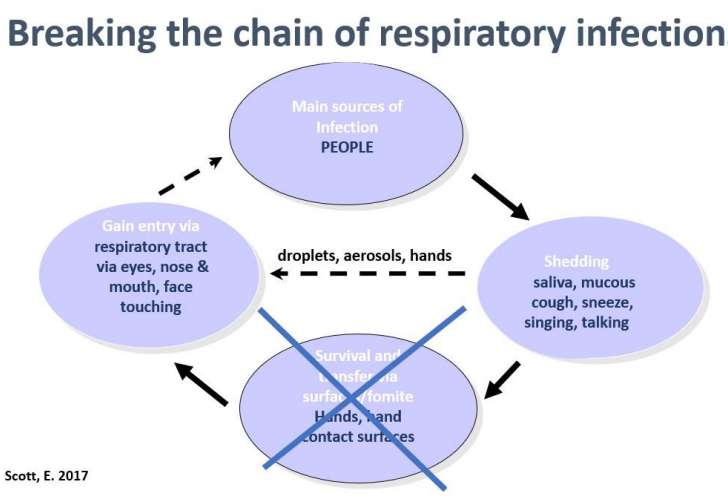


Fig 11: Breaking the chain of respiratory infections

The 5 main ways to prevent transmission in the community:

1. Wear a mask consistently and correctly
2. Avoid crowds
3. Stay 2 meters apart
4. Frequently wash or sanitize your hands and hand-contact surfaces
5. Choose outdoors for meeting other people
   - Keep up to date with knowledge as understanding evolves

DAY ONE

In the home

- Good Respiratory Hygiene (catch it, bin it, kill it)
- 2 meter rule
- Hand washing
- Disinfect frequently used hand -contact surfaces
- Don't share towels, facecloths, toothbrushes etc.
- Use hot water for doing the laundry (60C) & laundry products with disinfectants

Away from home

- Wear a mask
- Try to keep your distance = 2 meters
- Try to avoid busy places
- Try to avoid public transport
- Avoid shaking hands
- Try not to touch handrails and door handles etc.
- Avoid touching your eyes, nose and mouth as much as possible
- Wash your hands frequently or use a hand sanitizer as you go
- Meet outdoors

Fig 12: How to protect others from getting sick

DAY ONE

Soaps, Hand Sanitizers and Disinfectants

The virus is susceptible to cleaning and disinfection

✔Plain soap
✔Hand Sanitizers, greater than 62-70% v/v alcohol content
✔Disinfectants, use a product such as a bleach-based product, which is active against respiratory viruses. Check the claims on the label to be sure.
Note: To use bleach (hypochlorite) products as a surface disinfectant, the recommended concentration is 0.5% w/v or 5000 ppm available chlorine.
Note: If you don't know the concentration of a bottle of bleach, suggested that you assume that the concentration is 3.5% w/v available chlorine and do a 1 in 15 dilution.
✔Other bleach/cleaner formulations such as sprays or wipes are formulated to be used "neat" (i.e. without
dilution).

Masks for the community

Source: Collected

Fig 13: Mask for the community

Cloth

Protects others from SOME larger respiratory droplets Does NOT protect the wearer from inhalants

Surgical

- Protects others from some respiratory droplets
- Provides better filtration for wearer
-Does not protect wearer against smaller droplets and particles
- Don't forget eye protection when working with patients with COVID

Patient care during COVID

All patients during COVID

1. Assume every patient is positive until proven otherwise
2. Taking off masks for breaks increases risk
3. Think about the fomites you touch while in a patient's room
4. All people involved pose a risk, patients, staff, visitors - protect everyone

Myth-busting

1. Masks are harmful and make it difficult to breathe.
2. Children can't transmit the virus.
3. Lots of Treatments are working and widespread.
4. The virus was man-made.
5. You can get COVID again after your first infection.
6. Vaccines? Treatments?

DAY ONE

Topic	Personal Protection and Isolation Procedures
Objectives	1. To learn the basics important for self-protection 2. The Learners to receive detailed education and training on protective equipment such as surgical masks, N 95, Face shields, safe distancing

Personal Protective Equipment

Personal protective equipment (PPE) is used every day by healthcare personnel (HCP) to protect themselves, patients, and others when providing care. PPE helps protect HCP from potentially infectious patients and materials, toxic medications, and other potentially dangerous substances used in healthcare delivery.

General Principals of PPE

Hand hygiene should always be performed despite PPE use

Remove and replace if necessary any damaged or broken pieces of re-usable PPE as soon as you become aware that they are not in full working order.

Discard all items of PPE carefully and perform hand hygiene immediately afterwards

What are Best Practices and Why are They Important?

“Best practices are a set of guidelines, ethics or ideas that represent the most efficient or prudent course of action. Best practices are often set forth by an authority, such as a governing body or management, depending on the circumstances. While best practices generally dictate the recommended course of action, some situations require that industry best practices be followed.”

Best practices are important for processes that you need to work correctly. They are simply the best way to do things and have been worked out through trial and error, and are found to be the most sensible way to proceed.

Standard Precautions

Standard precautions "(…) A set of practices that are applied to the care of patients, regardless of the state of infection (suspicion or confirmation), in any place where health services are provided. (…)"

Who Needs PPE?

- **Patients** with confirmed or possible SARS-CoV-2 infection should wear a facemask when being evaluated medically
- **Healthcare personnel** should adhere to Standard and Transmission-based Precautions when caring for
  patients with SARS-CoV-2 infection.

Our focus will be on the use of personal protective equipment (PPE) according to the risk

Source: Collected

Fig 14: PPE

Transmission Based Precautions (BASICS)

- CONTACT
- DROPLET
- AIRBORNE

DAY ONE

Transmission Based Precautions for COVID-19

Fig 16: Transmission Based Precautions for COVID-19

Scenario	Precaution
For any suspected or confirmed case of COVID-19	**Standard + contact + droplet precautions**
For any suspected or confirmed case of COVID-19 and aerosol-generating procedure (AGP)	**Standard + contact + airborne precautions**

Table 1: Precaution measurement

Fig 17: Gloves

Gloves (sterile / nonsterile)

Gloves are an essential item of PPE and are used to prevent the healthcare worker from being exposed to direct contact with the blood or body fluid of an infected patient

Gloves DO NOT replace hand hygiene

Fig 18: Gowns

Gowns

Gowns are used in addition to gloves if there is risk of fluids or blood from the patient splashing onto the healthcare worker's body

Plastic aprons should be used in addition to gowns if the material of the gown is not fluid repellent and the task to be performed may result in splashes onto the healthcare worker's body.

The same gown can be used when providing care to more than one patient but only those patients in a cohort area and only if the gown does not have direct contact with a patient.

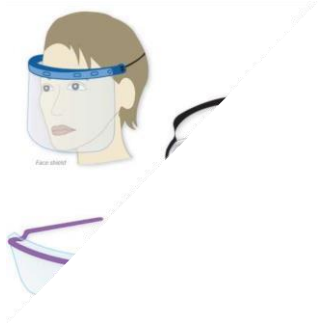


Fig 19: Facial Mucosa Protection

Facial Mucosa Protection (face shield, eye visor, goggles)

Masks, and eye protection, such as eyewear and goggles, are also important pieces of PPE and are used to protect the eyes, nose or mouth mucosa of the healthcare worker from any risk of contact with a patient's respiratory secretions or splashes of blood, body fluids, secretions or excretions.

Masks Types and Effectiveness

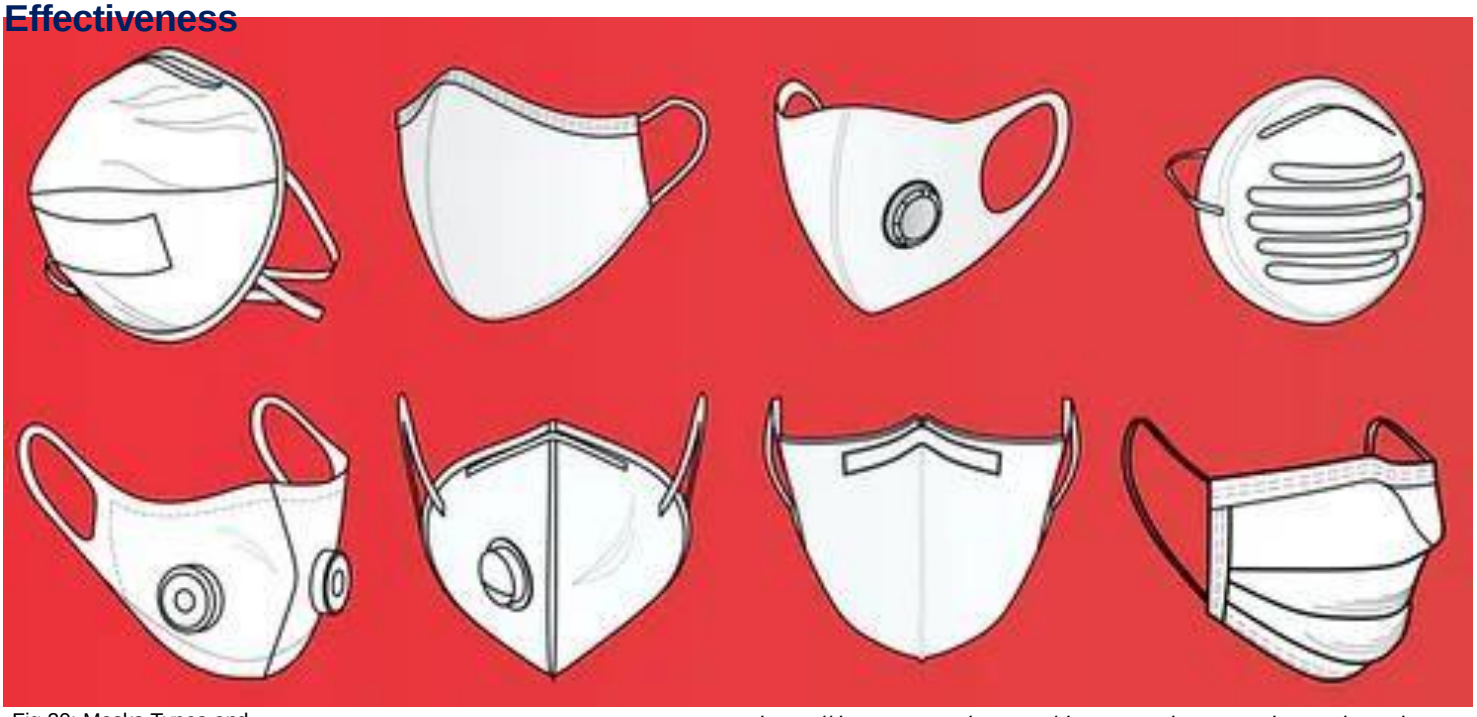


Fig 20: Masks Types and Effectiveness

https://theconversation.com/does-your-homemade-mask-work-142675

N95 masks

Actually a type of respirator, an N95 mask offers more protection than a surgical mask does because it can filter out both large and small particles when the wearer inhales. As the name indicates, the mask is designed to block 95% of very small particles. Some N95 masks have valves that make them easier to breathe through. With this type of mask, unfiltered air is released when the wearer exhales.

Health care providers must be trained and pass a fit test to confirm a proper seal before using an N95 respirator in the workplace. Like surgical masks, N95 masks are intended to be disposable. However, researchers are testing ways to disinfect N95 masks so they can be reused.

One Way Valve Masks

Some N95 masks, and even some cloth masks, have one-way valves that make them easier to breathe through. But because the valve releases unfiltered air when the wearer breathes out, this type of mask doesn't prevent the wearer from spreading the virus. For this reason, some places have banned them.

Cloth Masks

A cloth mask is intended to trap droplets that are released when the wearer talks, coughs or sneezes. Asking everyone to wear cloth masks can help reduce the spread of the virus by people who have COVID-19 but don't realize it.

Cloth face coverings are most likely to reduce the spread of the COVID-19 virus when they are widely used by people in public settings. And countries that required face masks, testing, isolation and social distancing early in the pandemic have successfully slowed the spread of the virus.

Medical Masks (droplet precaution)

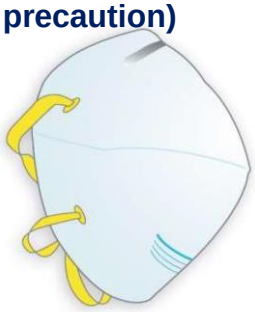
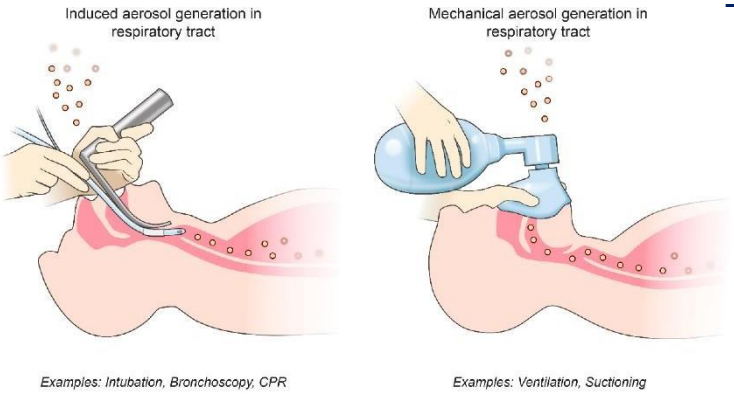


Fig 21: Medical Masks

Use a respirator whenever entering and providing care within the patient isolation facilities ensuring that the seal of the respirator is checked before every use.

Perform hand hygiene immediately after removing the respirator.

Aerosol-generating procedures (AGP)



https://www.mdpi.com/1999-4915/11/10/940/htm#fig_body_display_viruses-11-00940-

Fig 22: Aerosol-generating procedures (AGP)

Types of Procedures

- Bronchoscopy
- Cardiopulmonary resuscitation
- Non-invasive ventilation (BiPAP, CPAP, HFOV)
- Surgery
- Tracheal intubation
- Manual ventilation
- Sputum induction
- Suctioning
- Number of healthcare providers exposed should be limited

DAY ONE

Donning PPE

Identify and gather the proper PPE to don
2. Perform hand hygiene using hand sanitizer
3. Put on isolation gown
4. Put on approved N95 filtering facepiece respirator or higher (use a facemask if a respirator is not available)
    - Respirator
    - Facemask
5. Put on face shield or goggles
6. Healthcare personnel may now enter patient room

Identify and gather the proper PPE to don

Ensure choice of gown size is correct (based on training).

Perform hand hygiene using hand

sanitizer. Put on isolation gown.

Tie all of the ties on the gown. Assistance may be needed by other healthcare personnel.

Put on NIOSH-approved N95 filtering facepiece respirator or higher (use a facemask if a respirator is not available).

If the respirator has a nosepiece, it should be fitted to the nose with both hands, not bent or tented. Do not

pinch the nosepiece with one hand. Respirator/facemask should be extended under chin. Both your mouth and nose should be protected. Do not wear respirator/facemask under your chin or store in scrubs pocket between patients.*

Respirator

Respirator straps should be placed on crown of head (top strap) and base of neck (bottom strap). Perform a user seal check each time you put on the respirator.

Facemask

Mask ties should be secured on crown of head (top tie) and base of neck (bottom tie). If mask has loops, hook them appropriately around your ears.

Put on gloves

Gloves should cover the cuff (wrist) of gown.

Put on face shield or goggles

When wearing an N95 respirator or half facepiece elastomeric respirator, select the proper eye protection to ensure that the respirator does not interfere with the correct positioning of the eye protection, and the eye protection does not affect the fit or seal of the respirator. Face shields provide full face coverage. Goggles also provide excellent protection for eyes, but fogging is common.

- Healthcare personnel may now enter patient room -

DAY ONE

Doffing PPE

1. **Remove gloves**
2. **Remove gown**
3. **Healthcare personnel may now exit patient room**
4. **Perform hand hygiene**
5. **Remove face shield or goggles**
6. **Remove and discard respirator** (or facemask if used instead of respirator)
    - Respirator
    - Facemask

7.Perform hand hygiene after removing the respirator/facemask and before putting it on again if your workplace is practicing reuse*

8. Remove gloves

Ensure glove removal does not cause additional contamination of hands. Gloves can be removed using more than one technique (e.g., glove-in-glove or bird beak).

9. Remove gown

Untie all ties (or unsnap all buttons). Some gown ties can be broken rather than untied. Do so in gentle manner, avoiding a forceful movement. Reach up to the shoulders and carefully pull gown down and away from the body. Rolling the gown down is an acceptable approach. Dispose in trash receptacle. *

- Healthcare personnel may now exit patient room-

DAY ONE

Perform Hand Hygiene.

Remove face shield or goggles

Carefully remove face shield or goggles by grabbing the strap and pulling upwards and away from head. Do not touch the front of face shield or goggles.

Remove and discard respirator (or facemask if used instead of respirator)

Do not touch the front of the respirator or facemask.*

Respirator

Remove the bottom strap by touching only the strap and bring it carefully over the head. Grasp the top strap and bring it carefully over the head, and then pull the respirator away from the face without touching the front of the respirator.

Facemask

- Carefully untie (or unhook from the ears) and pull away from face without touching the front.
- Perform hand hygiene after removing the respirator/facemask and before putting it on again if your workplace is practicing reuse.*

Physical distancing in the Healthcare Environment

Healthcare delivery requires close physical contact between patients and HCP. However, when possible, physical distancing (maintaining 6 feet between people) is an important strategy to prevent SARS-CoV-2 transmission.

- Examples of how physical distancing can be implemented for patients include:
    - Limiting visitors to the facility to those essential for the patient's physical or emotional well-being and care (e.g., care partner, parent).

For HCP, the potential for exposure to SARS-CoV-2 is not limited to direct patient care interactions. Transmission can also occur through unprotected exposures to asymptomatic or pre-symptomatic co-workers in breakrooms or co-workers or visitors in other common areas. Examples of how physical distancing can be implemented for HCP include: Reminding HCP that the potential for exposure to SARS-CoV-2 is not limited to direct patient care interactions. Emphasizing the importance of source control and physical distancing in non-patient care areas.

Cohorting

In this guidance, cohorting refers to the practice of isolating multiple individuals with laboratory-confirmed COVID-19 together or quarantining close contacts of an infected person together as a group due to a limited number of individual cells. While cohorting those with confirmed COVID-19 is acceptable, cohorting individuals with suspected COVID-19 is not recommended due to high risk of transmission from infected to uninfected individuals. See Quarantine and Medical Isolation sections below for specific details about ways to implement cohorting as a harm reduction strategy to minimize the risk of disease spread and adverse health outcomes.

Confirmed vs. Suspected COVID-19

A person has confirmed COVID-19 when they have received a positive result from a COVID-19 viral test, but they may or may not have symptoms. A person has suspected COVID-19 if they show symptoms of COVID-19 but either have not been tested via a viral test or are awaiting test results. If their test result is positive, suspected COVID-19 is reclassified as confirmed COVID-19.

DAY ONE

Medical Isolation

Medical isolation refers to separating someone with confirmed or suspected COVID-19 infection to prevent their contact with others and to reduce the risk of transmission. Medical isolation ends when the individual meets pre- established clinical, time-based, and/or testing criteria for release from isolation, in consultation with clinical providers and public health officials. In this context, isolation does NOT refer to punitive isolation for behavioral infractions within the custodial setting. Staff are encouraged to use the term “medical isolation” to avoid confusion, and should ensure that the conditions in medical isolation spaces are distinct from those in punitive isolation.

Quarantine

Quarantine refers to the practice of separating individuals who have had close contact with someone with COVID-19 to determine whether they develop symptoms or test positive for the disease. Quarantine also reduce the risk of transmission if an individual is later found to have COVID-19. Quarantine for COVID-19 should last for a period of 14 days after the exposure has ended. Ideally, each quarantined individual should be quarantined in a single cell with solid walls and a solid door that closes.

Social Distancing

Social distancing is the practice of increasing the space between individuals and decreasing their frequency of contact to reduce the risk of spreading a disease (ideally to maintain at least 6 feet between all individuals, even those who are asymptomatic). Social distancing strategies can be applied on an individual level (e.g., avoiding physical contact), a group level (e.g., cancelling group activities where individuals will be in close contact), and an operational level (e.g., rearranging chairs in the dining hall to increase distance between them).

Summary

- The use of personal protective equipment (PPE) by healthcare workers requires an evaluation of the risk related to healthcare-related activities.
- The following precautions are recommended for the care of patients with suspected or confirmed cases of COVID-19:
- For any suspected or confirmed cases of COVID-19
- standard + contact + droplet precautions
- For any suspected or confirmed cases of COVID-19 and AGP
- Standard + Contact + Airborne Precautions

DAY TWO

Topic	Diagnosis
Objectives	1. Learning about Testing and clinical manifestation 2.Understanding of the systemic insults that are unique to the Corona Virus 2

Topic	Triaging Patients -Learning to help patients receive the right care at the right time
Objectives	1.Learning of the important symptoms and signs critical to risk stratification: Mild, moderate, severe or critical 2. The students will learn how to channel the patients

Topic	Mother and Child Health
Objectives	1.Understanding of the risks to the mother and the baby and their management 2.Understanding of the steps to protect the baby while the baby can still be with the mother

Topic	Communication with patients and families and with Team Members including Doctors
Objectives	1.For Mild to moderate patients supporting the patient at home, understanding of the means to support the patient and the family in case of mild to moderate clinical cases 2.Support the patient and families in case of critical care Understanding of the means to support the patient and the family in case of critical illness

Quick Assessment

DAY TWO

Topic	Diagnosis
Objectives	1. Learning about Testing and clinical manifestation 2.Understanding of the systemic insults that are unique to the Corona Virus 2

COVID-19 Testing Overview

Main SARS-CoV-2 testing methods

- When each method should be used
- How to interpret the testing

Three main modes of SARS-CoV-2 testing

- Real-time PCR
- Antigen testing
- Antibody testing

Sample types

Sample of choice:

- NP swab, midturbinate, nasal swabs
- OP swab or sputum ok, too
- Saliva is less optimal

Nasopharyngeal swab

Marty and Verrill, *NEJM*

Fig 23: Nasopharyngeal swab

- Acute COVID-19 infection (first 7 days) - Best Test Option is PCR as virus load is very high, Antigen Test is about 50 % accurate and antibodies have not developed yet so no antibody test
- 7-14 days into COVID-19 infection – Best option is PCR Tests, the antigen test will not work and early growth of antibody may help with antibody test
- Second week or later in COVID-19 infection – After two weeks the PCR test is not effective or accurate anymore as the viral load has reduced considerably. The antibody test may work better.
- Highest Infectiousness is between 1 to 5 days of onset of symptoms
- Very high specificity and very high sensitivity
- RT-PCR is the gold standard for symptomatic patients
- Semi Quantitative

DAY

A positive IgM or IgG to SARS-CoV-2 indicates exposure to SARS-CoV-2 at some point. It does not mean:

- The patient is no longer infectious
- The patient is protected from reinfection

A negative IgM or IgG to SARS-CoV-2 does not mean that the patient does not have COVID-19, especially within the first 8 days of infection.

Negative COVID test, intermediate or high clinical suspicion?

- IDSA Panel Recommendation
- Suggests repeating viral RNA testing when the initial test is negative (versus performing a single test) in symptomatic individuals with an intermediate or high clinical suspicion of COVID-19 (conditional recommendation, low certainty of evidence).
- If pre-test probability is low, don't retest.

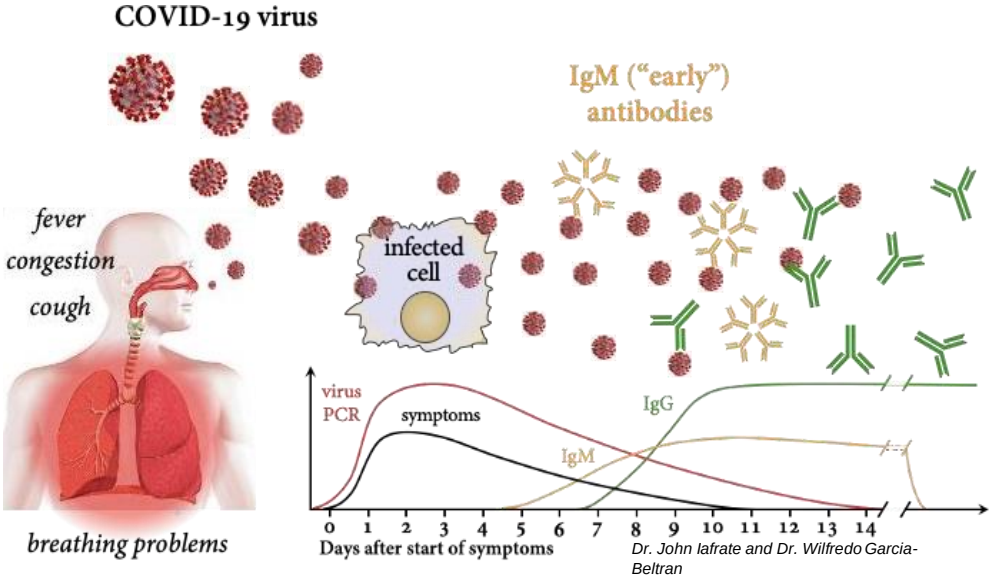


Fig 25: SARS-CoV-2 diagnostics PCR

- Duration of symptom onset is crucial for SARS-CoV-2 diagnostics PCR for the diagnosis of acute infection
- Serology for epidemiologic purposes
- Knowledge is evolving quickly
- No test is perfect, use your clinical judgement

DAY TWO

Topic	Triaging Patients -Learning to help patients receive the right care at the right time
Objectives	1.Learning of the important symptoms and signs critical to risk stratification: Mild, moderate, severe or critical 2. The students will learn how to channel the patients

Screening and Triaging Patients,-Learning and Preparing to help patients receive the right care at the right time

Objectives:

1. Learning of the important symptoms and signs critical to risk stratification: Mild, moderate, severe or critical
2. The participants will learn how to channel the patients

Screening and Triage focuses on the process that helps to quickly identify patients with COVID-19 and protects you and other patients from getting the virus. This chapter covers the following learning objectives:

- Explain the concepts and principles of screening and triage.
- Identify patients who need immediate interventions and/or isolation.
- Use remote screening and triage processes to reduce patient burden.
- Implement infection prevention and control (IPC) during screening and triage.
- Use personal protective equipment (PPE) to protect health care workers and patients during screening and triage.

Why Screening and Triage?

- Screening and triage refer to the processes of identifying patients with possible or confirmed COVID-19 so they can be properly and immediately cared for.
- Screening and triage help limit the spread of COVID-19 among health care workers and other patients.
- During the COVID-19 pandemic, it is important to quickly identify and isolate possible or confirmed COVID-19 patients because COVID-19 spreads from person to person via respiratory droplets.

DAY TWO

How can the virus be transmitted through the patient's droplets?

- The transmission can occur from touching a surface contaminated with the virus, and then touching one's own face.
- The goal of screening and triage is to limit the spread of these droplets from the moment patients arrive at the facility. Screening and triage help identify and care for the most urgent cases first.
- Screening is a critical step that helps protect healthcare workers and other patients COVID-19.

Screening before the patient arrival

Screening can start before patient arrives at the facility. To do this, one must ensure that all medical personnel and first responders are aware of the screening methods and case definitions. They should also know how to protect themselves from the virus.

Virtual/Remote Screening

Virtual or remote screening is done by phone or applications, such as FaceTime, Skype, or WhatsApp.

Benefits of Virtual Screening

Virtual screening can help reduce the burden on hospital resources in surge situations and reduce the chance of transmission within the health care facility.

Some strategies for virtual screening include the following:

- Ask patient to monitor their own temperature with a home thermometer and to check their own respiratory or heart rates.
- Listen to signs/symptoms such as cough and hoarse voice while talking to patients over the phone.
- Ask the patient to repeat a long sentence to assess for shortness of breath and/or breathlessness.

Considerations

Virtual/remote screening requires your facility to have reliable and well-publicized lines of communication (such as a hotline or online text chat) with the community, especially for those self-monitoring at home.

Patients advised to stay home will need to be informed of proper infection control precautions and how to seek care in the case of worsening symptoms.

DAY

Consider dedicating a team of screeners (e.g., a triage team) to limit the number of health care workers coming into contact with suspected cases. This effort may also help to conserve PPE supplies. Screeners should take the following precautions.

Mask and Shield
Wear a Mask and Shield while being less than two meters away from patients

Touch
Avoid touching your face, mouth and eyes

Distance
Try to keep 1 to 2 meters distance when appropriate

Gloves
Wear Gloves

Handwashing
Wash hands before and after contacting each patient

Steps to Triage
Identify suspected cases by asking patients about their recent travel, contact with COVID-19 patients, and symptoms.

Identify - Case Definitions
The screeners must know the case definitions in order to screen patients properly. You must at know the definitions of suspected case, confirmed case, and probable case.

Identify - Signs And Symptoms

The screeners must know signs and symptoms of COVID-19

- Headache is one of the prevalent symptoms found in COVID-19 Patients
- Sneezing is another common symptom
- Fever – Having a Fever is one of the first signs of most COVID-19 patients
- Dry Cough is another common symptom that is a sign of respiratory infection
- Shortness of Breath- Difficulty breathing or shortness of breath is another sign of respiratory infection which is the most common sign of COVID-19. The patient may also develop pneumonia or Acute Respiratory Distress Syndrome (ARDS)

Isolate
Place the patient on droplet precautions by doing one of the following:

- Isolate the patient to a single occupation room if possible.
- Group patients suspected of the virus together,
  isolated from the rest of the population.
- Have the patient wait outside, away from other patients and contact via cell phone when a safe room is ready.

Inform
The last step is to inform persons in charge of facilitating correct precautions and testing within clinic, department or facility. These persons in charge may be charge nurse, flow nurse, attending physician etc.

DAY

When the patients are discharged from your facility, they should be instructed on home care and quarantine procedures. Make sure the patients know how to self-isolate themselves and self-monitor their own symptoms.
Advise them to call the clinic if they develop new or worse symptoms. Instruct them to wear face mask if they need to visit a health care facility.

It is a system of identifying high, medium and low risk patients and prioritizing care based on risk. Triage Scores can also indicate the resources that may be needed.

Risk Level	Risk Description	Activity	Guidance
High Community Risk	High potential for exposure to known or suspected sources of COVID-19.	• Avoid all gatherings of any size. • Avoid non-essential business and personal travel. • Avoid public transportation where possible. • Practice good hygiene and social distancing. • Cancel visits to nursing homes, long term care facilities, and hospitals. • Schools and after-school activities for youth close, as directed by educational authorities.	**STAY HOME, STAY SAFE** Minimize contact with others, wherever possible, and avoid leaving home, except for essential needs. Practice social distancing and use face coverings.
Moderate to Significant Community Risk	High potential for exposure to known or suspected sources of COVID-19.	• Avoid and cancel medium (10-250 people) and large public private gatherings (250+) • Avoid non-essential business and personal travel. • Use public transportation with caution. • Practice good hygiene and social distancing. • Cancel visits to nursing homes, long term care facilities, and hospitals. • Resume activities for schools and after school activities following state and public health guidance.	Minimize contact with others, but begin leaving the home for non-essential needs, except medium and large gatherings. Practice social distancing and use face coverings.
Low Community Risk	Frequent/close contact with people who may be infected, but who are not known to be infected.	• Avoid and cancel medium (10-250 people) and large public private gatherings (250+) • Avoid non-essential business and personal travel. • Use public transportation with caution. • Practice good hygiene and social distancing. • Avoid visits to vulnerable populations in nursing homes, long term care facilities, and hospitals. • Resume activities for schools and after school activities following state and public health guidance.	Resume contact with others and resume leaving the home, even for larger gatherings. Practice social distancing and use face coverings.
New Normal Risk	Minimal and controlled level of COVID-19 new chains of transmission have been limited.	• Resume attending public and private gatherings freely. • Resume large indoor and outdoor gatherings. Resume non-essential business and personal travel. Avoid other states or countries where widespread transmission may still be occurring. • Resume full public transportation use. • Resume visiting vulnerable populations while practicing good hygiene and social distancing. • Resume activities for schools and after school activities. • Resume school and after school activities as normal.	Resume normal contact with others unless sick.

https://fbindependent.com/fort-bend-countys-covid-status-moderate-risk-p14144-1.htm

Table 3 : Triage Risks

Benefits of triage

Triage provides several benefits.

- Triage Helps Identify and prioritize sick patients quickly
- Triage Helps indicate the resources that may be needed
- Triage provides time for coordination of safe care

DAY TW

Q Triage for COVID -19

- With the coronavirus, certain procedures that aerosolize secretions (such as intubation) pose a higher risk to health care providers. The triage allows health care team to prepare additional equipment before coming in contact with the high-risk patients.
- Posters can be placed in triage area where there is not a well-defined system already. Different systems can be adapted based on individual environments and resources.

Triage process

•A medical mask should be given to patients with respiratory symptoms as soon as they get to the facility if they do not already have one. All patients in the separate COVID-19 waiting area should wear a medical mask.

•If medical masks are not available, provide paper tissues or request the patient to cover their nose and mouth with a scarf, bandana, or T-shirt during the entire triage process, including while in the COVID-19 waiting area. A homemade cloth mask can also be used as source control, if the patient has one. Exercise caution as these items will become contaminated and can serve as a source of transmission to other patients or family members. WHO's guidance should be followed by patients and family members to clean these items.

(https://www.who.int/news-room/q-a-detail/q-a-on-infection-prevention-and-control-for-health-care-workers-caring-for- patients-with-suspected-or-confirmed-2019-ncovexternal icon).

•Use a standardized triage algorithm to immediately isolate/separate patients at high risk for having COVID-19 in single-person rooms with doors closed or designated COVID-19 waiting areas.

•Limit the number of accompanying family members in the waiting area for suspected COVID-19 patients (do not allow children aged <18 years unless a patient or a parent). Anyone in the separate waiting area for suspected COVID-19 should wear a medical mask. If medical mask is not available, wear a cloth mask or use multiple layers paper tissues or other fabrics such as T-shirts or scarfs to cover their nose and mouth.

•Triage area, including a separate waiting area for suspected COVID-19, should be cleaned at least twice a day with a focus on frequently touched surfaces. Disinfection can be done with 0.1% (1000ppm) chlorine or 70% alcohol for surfaces that do not tolerate chlorine. For large blood and body fluid spills, 0.5% (5000ppm) chlorine is recommended.

defined as patients at high risk for having COVID-19 based on clinical and epidemiologic criteria (e.g., travel history or exposure to someone with confirmed or suspected COVID-19). Definition may change depending on where countries or regions within countries are in the stage of outbreak (e.g. community transmission).

no or limited vs. widespread

https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/sop-triage-prevent-transmission.html

Summary

- Screening can occur before the patients arrive at the facility. Remote or virtual screening can help reduce the burden on hospital resources and minimize the chance of transmission within the facility.
- To prevent the spread of COVID-19 in the facility, implement IPC strategies such as posting signs to advise patients about coughing and sneezing, providing hand hygiene stations, and arranging space for suspected patients away from other patients.
- The team of screeners and triage should know signs, symptoms, and case definitions of COVID-19. They must follow precaution guidelines including using PPE, distancing 1-2 meters from patients, and avoiding touching their faces.
- The CDC screening protocol is identify, isolate, and inform. If patients are discharged, instruct the patients on home care and what to do if the symptoms get worse.
- Triage is a system of identifying high-, medium-, and low-risk patients and prioritizing care based on this risk.

  Triage helps the sickest patients to get care quickly and provides time for coordination of safe care.

DAY TWO

How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

Duration of the entire procedure: 40-60 seconds

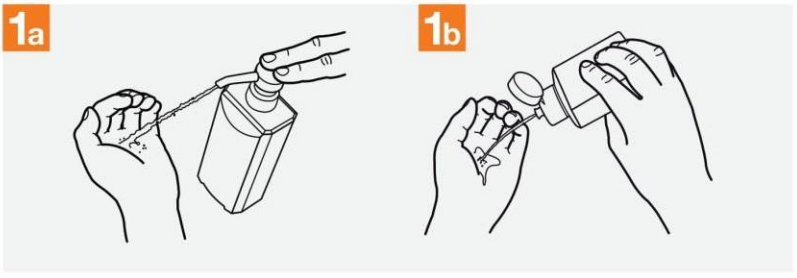
Fig 26:
Handwash

DAY TWO

How to Handrub?

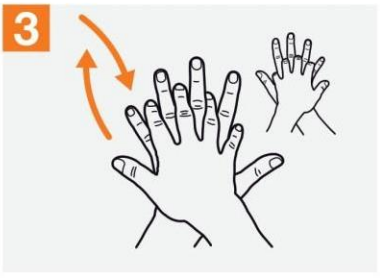
RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

Duration of the entire procedure: 20-30 seconds



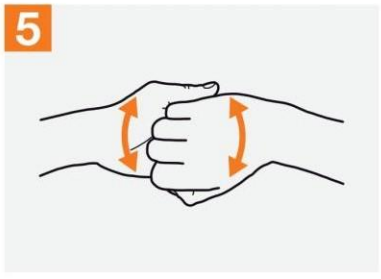
Apply a palmful of the product in a cupped hand, covering all surfaces;

Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;

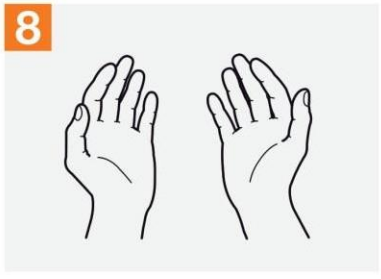
Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;

Rotational rubbing of left thumb clasped in right palm and vice versa;

Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.

World Health Organization | Patient Safety
A World Alliance for Safer Health Care | SAVE LIVES
Clean Your Hands

May 2009

Fig 27:
Handrub

DAY TWO

Topic	Mother and Child Health
Objectives	1. Understanding of the risks to the mother and the baby and their management 2. Understanding of the steps to protect the baby while the baby can still be with the mother

Mother and Child Health

Objectives:

1. Understanding of the risks to the mother and the baby and their management
2. Understanding of the steps to protect the baby while the baby can still be with the mother

WHAT ARE THE CASE DEFINITIONS FOR COVID-19 IN PREGNANT WOMEN?

STATEMENT:

The case definitions for COVID-19 in pregnant women are no different from that of the general population. The terms SUSPECTED case, PROBABLE case and CONFIRMED case are used.

Suspect

Acute respiratory tract infection
Close contact with COVID-19 case
Absence of alternative diagnosis

Probable

- Suspect case
- Inconclusive Laboratory result

Confirmed

- With laboratory confirmation of virus causing covid-19
- Infection

WHO SHOULD BE TESTED FOR COVID-19?

STATEMENT:
All pregnant women with symptoms associated to COVID-19 infection should be tested. Testing should also be considered in pregnant women with increased risk of exposure to the diseases, such as those who reside in or has a history of travel within the prior 14 days to a location with community transmission or those who has a close contact with a confirmed or suspected case of COVID-19.

SHOULD ASYMPTOMATIC PREGNANT WOMEN BE SCREENED FOR SARS-CoV-2 PRIOR TO DELIVERY?

STATEMENT:

Asymptomatic individuals play a role in the transmission of COVID-19. Hence, screening for SARS-CoV-2 should be considered among pregnant women at 37 – 38 weeks to give time for the release of the results prior to delivery.

A GUIDANCE FOR CLINICIANS ON THE OBSTETRIC MANAGEMENT OF PATIENTS WITH CORONAVIRUS DISEASE 2019 (COVID-19). APRIL 2020.

Identifying pregnant women with COVID-19 infection has several goals:

1. To tailor frequency and location of prenatal care for identified COVID-19 confirmed women and COVID suspects and probable cases.
2. To decrease risk of transmission to other patients, healthcare personnel, and family living in the same space
3. To plan for labor and delivery care
4. To plan for mother-infant separation strategies, if necessary

DAY

COVID-19

ARE PREGNANT PATIENTS AT HIGHER RISK OF GETTING COVID-19?

STATEMENT:

Pregnant women do not appear to have an increased risk for COVID-19 infection.

Emerging evidence suggests that individuals admitted to hospitals with COVID-19 are hypercoagulable. Considering that pregnancy is also known to be a hypercoagulable state[8] it follows that infection with COVID-19 is likely to be associated with an increased risk of maternal venous-thromboembolism.[9]

Thrombosis UK. Practical guidance for the prevention of thrombosis and management of coagulopathy and disseminated intravascular coagulation of patients infected with COVID-
19. 2020 [Available from: https:// thrombosisuk.org/covid-19- thrombosis.php] accessed 07 April 2020

WHAT ARE THE KNOWN OBSTETRIC COMPLICATIONS OF COVID-19 INFECTION?

STATEMENT:

Preterm delivery, preterm prelabor rupture of membranes (PPROM) and intrauterine fetal distress are potential complications of maternal COVID- 19 infection, possibly cased by maternal hypoxemia.

Donders F, Lonnée-Hoffmann R, Tsiakalos A, Mendling W, Martinez de Oliveira J, Judlin P, Xue F, Donders GGG, ISIDOG Covid-Guideline Workgroup, ISIDOG. Recommendations Concerning COVID-19 and Pregnancy. Diagnostics (Basel). 2020;10(4) Epub 2020 Apr 22

CAN COVID-19 INFECT THE FETUS IN-UTERO?

STATEMENT:

It is still unclear whether there is vertical transmission from mother to fetus, but limited cases have shown no evidence of vertical transmission in patients with COVID-19 infection during the last trimester of pregnancy.

Schwartz DA. An Analysis of 38 Pregnant Women with COVID-19, Their Newborn Infants, and Maternal-Fetal Transmission of SARS-CoV-2: Maternal Coronavirus Infections and Pregnancy Outcomes. Arch Pathol Lab Med 2020

SHOULD CORTICOSTEROIDS BE GIVEN TO PREGNANT WOMEN IN PRETERM LABOR WITH COVID-19 INFECTION?

STATEMENT:

Pregnant women at 24 to 33 6/7 weeks age of gestation, with suspected or confirmed COVID-19 who are at risk of preterm labor within 7 days may benefit from antenatal corticosteroids.

American College of Obstetricians and Gynecologists (ACOG) COVID-19 FAQs for Obstetrical care on ObG Project COVID-19: Pregnancy Guidelines. and ACOG Guidelines on Uptodate at https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19-pregnancy-issues

A GUIDANCE FOR CLINICIANS ON THE OBSTETRIC MANAGEMENT OF PATIENTS WITH CORONAVIRUS DISEASE 2019 (COVID-19). APRIL 2020.

DAY TWO

WHEN IS THE BEST TIME TO DELIVER A PREGNANT PATIENT WITH COVID-19 INFECTION?

STATEMENT:

COVID-19 infection alone is not an indication for pregnancy termination, and decisions regarding delivery timing must be individualized. Ideally, if women can be successfully treated, pregnancies should be allowed to continue until term. Conversely, if a pregnant woman is critically ill, her clinical deterioration may lead to intrauterine fetal demise or loss of both mother and infant. In such circumstances, early delivery may be warranted. The indications for early delivery depend upon: the mother's clinical status, gestational age, and fetal well-being.

Indications For Delivery With Severe COVID-19 Infection

MATERNAL INDICATIONS	FETAL INDICATIONS
▪ Intrauterine infections ▪ Disseminated intravascular coagulation ▪ Hepatic or renal failure ▪ Compromised cardiopulmonary function due to uterine overdistention or presence of peritoneal fluid ▪ Compartment syndrome ▪ Severe ARDS ▪ Cardiopulmonary arrest	▪ Fetal demise ▪ Gestational age associated with low neonatal morbidity or mortality

Adapted from: General Guidelines in the Management of an Obstetrical Patient on the Labor and Delivery Unit during COVID-19 Pandemic. (Stephens AJ, Barton JR, Bentum NA, Blackwell Sc, Sibai BM, Am J Perinatol, Published online: 2020-04-28)

SHOULD INDUCTION OF LABOR BE INSTITUTED FOR PREGNANT WOMEN WITH COVID-19 INFECTION?

STATEMENT:

The decision to do induction of labor in patients with COVID-19 infection is dependent on several factors which include patient's clinical presentation, presence of co-morbid illness/es, internal examination findings (Bishop's score) and hospital bed capacity. As exposure time between patients and healthcare providers are increased with induction of labor, the risks and benefits must be weighed and contemplated by the clinician when considering this procedure.

WHAT IS THE MODE OF DELIVERY FOR A PREGNANT WOMAN WITH COVID-19 INFECTION?

STATEMENT:

The mode of delivery should be individualized based on standard obstetric indications. COVID-19 is not an indication to change the route of delivery. Vaginal deliveries can be attempted, and cesarean section is performed if medically warranted.

A GUIDANCE FOR CLINICIANS ON THE OBSTETRIC MANAGEMENT OF PATIENTS WITH CORONAVIRUS DISEASE 2019 (COVID-19). APRIL 2020.

DAY TWO

SHOULD ANESTHESIA BE GIVEN TO PREGNANT WOMEN WITH COVID-19 DURING DELIVERY?
STATEMENT: **Neuraxial anesthesia (epidural, spinal or caudal) is preferred. Inhalational or general anesthesia should be avoided.**

Intubation and extubating during general anaesthesia are considered aerosol generating procedures which may contribute to spread of the virus and should therefore be avoided in COVID-19 pregnant patients.

Royal College of Obstetrics and Gynaecology (RCOG) Coronavirus (COVID-19) Infection in Pregnancy: information for Healthcare Professionals Version 8 [Internet]. 2020 April 17 available from https://www.rcog.org

Disease Severity Classification of Pregnant Women with COVID-19

Disease Severity	Recommended Management
Pregnant patients with MILD SYMPTOMS AND NO CO-MORBID ILLNESS • Have no co-morbid illness • Present with mild non-specific symptoms (fever, cough, sore throat, nasal congestion, headache, muscle pain or malaise)	• No diagnostic tests are needed for this group except for RT PCR for SARS-CoV-2. • Patient may *opt to undergo home quarantine for 14 days* with strict instructions, or may stay in a community health facility. • Give symptomatic treatment and supportive care. • Most cases will not require antibiotics.
Pregnant patients with STABLE CO-MORBID ILLNESS AND MILD PNEUMONIA • Have clinical signs of **mild pneumonia** (fever, respiratory rate <30 breaths per minute, heart rate <125 beats per minute and SpO2 >92%).	• Perform RT-PCR for SARS-CoV-2, Chest X-ray with abdominal shield, complete blood count, AST, ALT and creatinine. • Patient may be managed at home or admitted in a COVID-19 designated unit and managed as **CAP-Low Risk** based on the 2016 Updated Philippine Community Acquired Pneumonia Guidelines

Disease Severity	Recommended Management
Pregnant patients with SEVERE ACUTE RESPIRATORY INFECTION (SARI) * • Present with fever, respiratory rate >30 breaths/minute, with severe respiratory distress or SpO2 <92%	• Perform the following recommended diagnostic tests: - RT-PCR for SARS-CoV-2 - Complete blood count - Comprehensive metabolic panel - Ferritin - Lactate dehydrogenase (LDH), Lactate - Procalcitonin - C-reactive Protein (CRP) - INR/PT - D-dimer - Chest X-ray with abdominal shield or CT imaging without contrast - Sputum GS/CS - Blood culture - Arterial blood gas (ABG) • Patient must be admitted and managed as a case of **CAP-Moderate Risk**

A GUIDANCE FOR CLINICIANS ON THE OBSTETRIC MANAGEMENT OF PATIENTS WITH CORONAVIRUS DISEASE 2019 (COVID-19). APRIL 2020.

DAY

Most frequent Symptoms of Covid-19 Fever (80–100%), Cough (59–82%), Myalgia/Fatigue (44–70%), Shortness of breath (31–54%).

Less frequent symptoms are:
- Expectoration (28–33%),
- Headache (6–17%),
- Diarrhea (2–10%).

Lopez and Diaz 2020

Pregnancy

Pregnant women do not appear to be more susceptible to infection or serious complications, but the existing data are still limited.

Physiological changes in pregnancy – in the cardiovascular, respiratory, and coagulation systems – may confer an increased risk of morbidity.

In any case, COVID-19 complications during pregnancy should be identified and treated early.

Presence of co-morbidities (chronic hypertension, pregestational diabetes, cardiopulmonary diseases, chronic kidney disease stage III–IV, immunosuppression like in organ transplant recipients, HIV infection with, or prolonged corticosteroid therapy) may increase the risk of developing more severe clinical manifestations

If Suspected COVID-19 Case
- To minimize exposure, the initial assessment may be performed by phone from home before admission. In general, we recommend minimizing the number of professionals involved in face-to-face visits.
- Once admitted to labor room, a complete a medical history and physical examination including blood pressure, temperature, oxygen saturation (SO2), and heart and respiratory rate should be completed. When possible, a private room should be used.
- Fetal heart rate auscultation or EFM, or fetal ultrasound can be done depending on gestational age and maternal symptoms to confirm fetal viability or well-being.
- Laboratory workup as ordered

Management of Covid Patient in Labour Room

- Labour should be attended in a dedicated delivery room, preferably with negative pressure.
- Keep door close
- The patient should use a surgical mask throughout labour.
- Continuous FHR monitoring is advised due to possible increased risk of fetal distress, as reported in some early reports
- Monitor temperature, respiratory rate, and SO2 hourly.
- Under normal labour progression, vaginal examinations should be minimized (i.e., every 2– 4 h). Ideally, a minimal number of professionals should be involved in labour management to minimize the risk of professional exposure.
- Consider shortening the second stage of labour (forceps or vacuum) according to obstetric criteria as active pushing while wearing a surgical mask may be difficult for the woman
- New born care should be carried out in the same operating/labour room unless resuscitation measures are required that can not be provided in-room.

DAY

The patient shall be evaluated by the responsible clinician or designee during labour at appropriate intervals.

Each evaluation should include:

- Assessment of maternal status;
- Description of uterine activity;
- Assessment of fetal status;
- Description of findings on vaginal exam, if performed, including cervical dilation and effacement, fetal station, change in status of membranes, and progress since last exam;
- Summary of maternal and fetal status;
- Plan: clearly identified plans for or performance of clinical interventions and pain
- management. Evaluation: appropriate documentation in the medical record

Evaluation During Second Stage Labor

- Assessment of maternal status;
- Assessment of fetal status;
- description of uterine activity;
- Fetal station and, if known, position; and
- Assessment of progression and a plan for delivery.
- Clustered care when possible to minimize professional exposure

Delayed or assisted second stage as appropriate to preserve maternal reserves and minimize professional exposure

Management of Third & Fourth Stage of Labor

- Advanced planning when possible for new born care; neonatology consult if appropriate
- Reinforcement of hand hygiene and face covering if rooming in chosen
- Presence of support person for new born care when maternal condition warrants

COVID-19 and Postpartum

Can COVID-19 Spread Through Breastfeeding?

- Breast milk is the best source of nutrition for most infants. We do not know whether mothers with COVID-19 can transmit the virus via breast milk, but the limited data available suggest this is not likely. Whether and how to start or continue breastfeeding should be determined by the mother in coordination her infant, including handwashing and wearing a cloth face covering. with her family and healthcare providers. A mother with confirmed COVID-19 should be counselled to take precautions to avoid spreading the virus to

Jun 4, 2020 , Coronavirus Disease (COVID-19) and Breastfeeding | Breastfeeding www.cdc.gov › breastfeeding › maternal-or-infant-illnesses

DAY

Human milk helps provide protection to new-born infants against many illnesses during early life and is the best source of nutrition for most infants. A limited number of studies suggest that SARS CoV-2, the virus that causes COVID-19, is not detectable in the human milk of mothers with COVID-19 *(Chen et al, Lancet, 2020)*.

The CDC, WHO, and AAP suggest that the benefits of breastfeeding in the setting of COVID-19 appear to outweigh the potential risks of viral transmission from mother to infant.

- Infants should be fed pumped milk by a healthy caregiver during the hospitalization and until the mother is recovered from her COVID-19 illness.
- Recovery from COVID-19 illness is defined as at least 72 hours since resolution of symptoms of COVID and at least 7 days from when her illness began.
- Mothers who wish to breastfeed directly are encouraged to practice excellent hand hygiene and wear a surgical mask during breastfeeding

covidprotocols@bwh.harvard.edu

The following are recommended strategies for the breastfeeding mother-infant dyad with COVID-19:

- Mothers are encouraged to practice excellent hand hygiene and pump their breasts following birth to initiate lactogenesis.
- A dedicated breast pump should be made available to each woman during the postpartum hospitalization.
- Breast pumps and components should be thoroughly cleaned in between pumping sessions using standard policies that must include cleaning the pump with disinfectant wipes and washing pump attachments with hot soapy water.

Postpartum Care for COVID-19 Positive and PUI

Postpartum Monitoring: Postpartum patients with COVID-19 should be evaluated for stability prior to transfer. The patient's disease state should be categorized and high-risk comorbidities identified (NIH Treatment Guidelines):

Asymptomatic or Pre-symptomatic Infection:
Routine care unless comorbid risk factors for decompensation (i.e. preeclampsia, pulmonary disease other than mild intermittent asthma, immunosuppressed)

Mild Illness:
Recommend Q4H vital signs and strict I&Os for first 24 hours for vaginal delivery and 48 hours for c-section.

Moderate Illness:
Transfer to postpartum with continuous pulse oximetry monitoring for the first 24 hours or until improvement in presentation to mild disease (whichever takes longer). Plan for lab monitoring and additional imaging should be explicitly stated on transfer.

Severe Illness:
Features of severe illness, heart rate > 120 beats per minute, oliguria with urine output < 30 cc/hr for 2 hours, or other clinical concern based on evaluation of the obstetric care provider remain on labor and delivery. If oxygen requirement is decreasing or stable after 24 hours consider transfer to postpartum with continuous O2 monitoring.

DAY

postpartum

August 2020 BWH

- The common symptoms of COVID-19 in pregnancy and postpartum were cough (39%) and fever (40%). Breathlessness and muscle ache were reported in 19% and 10% of women with suspected or confirmed COVID-19
- The common laboratory findings were lymphopenia (35%), raised white cell count (27%), and low platelets (8%). Relatively small studies reported raised levels of procalcitonin (21%).
- 69% of women admitted with suspected or confirmed COVID-19 in pregnancy had abnormal radiological findings of consolidation
- Studies included pregnant women admitted to the hospitals and not all pregnant women

The clinical manifestations of COVID-19 in pregnancy and postpartum appears to be broadly similar to the general population, but are less frequent

Can new borns get COVID-19?

Newborns can be infected with the virus that causes COVID-19 after being in close contact with an infected person. Some babies have tested positive for the virus shortly after birth. It is unknown if these babies got the virus before, during, or after birth.

Most newborns who have tested positive for COVID-19 had mild or no symptoms and have recovered fully. However, there are a few reports of newborns with severe illness.
Aug. 25, 2020

If You Are Pregnant, Breastfeeding, or Caring for Young Children | COVID-19 www.cdc.gov › 2019-ncov › pregnancy-breastfeeding

DAY TWO

Topic	Communication with patients and families and with Team Members including Doctors
Objectives	1. For Mild to moderate patients supporting the patient at home, understanding of the means to support the patient and the family in case of mild to moderate clinical cases 2. 2. Support the patient and families in case of critical care Understanding of the means to support the patient and the family in case of critical illness

Communication

Communication is an essential aspect of nursing care

- Creates the context for developing trusting relationships
- Where true and deep fears, worries and feelings can surface and be shared
- Allows for the essence of our work to flourish

Nurses and Midwives should be able to

- Distinguish empathy from sympathy
- Identify elements of serious illness conversations
- Plan a Covid-19 serious illness conversation

- Communication enables the nurse to establish the human-human relationship where the healing takes place
- Within that relationship the purpose of healing can be fulfilled
- Healing comes from the root word meaning “to make whole”
- We assist individuals and families to prevent or cope with illness and suffering and find meaning in their experiences
- Essential Aspects of the Relationship:
  - Established with intention and purpose
  - Maintained deliberately
  - Focused on needs of the patient
  - Time limited
  - Ended with care
- Therapeutic Healing Relationships are established during times of vulnerability for the patient
- Encounters with healthcare providers is never neutral – they are either positive or negative
- We offer our unconditional regard and authentic humanness
- We recognize the inherent worth and dignity of every patient
- We have a special responsibility to assist with moving toward healing and wholeness
- We cure, at times, we offer healing possibility always

DAY TWO

Through communication we

- Share information
- Correct misinformation
- Explore emotional and cognitive responses
- Identify and evaluate problem-solving solutions
- Offer recommendations
- Plan with the patient

Techniques to facilitate Therapeutic Communication

- Restate
- Reflect
- Seek clarification and validation
- Try to translate feelings into words
- Formulate strategies for preventing escalation of anxiety or distress

Interviewing: Purposeful, specialized, goal directed interaction

- Establish and maintain trust and positive relationship
- Gather information and
- assess Provide information
- and teach Opportunity for
- observation Opportunity for
- counselling

Develop mutual understanding about the relationship expectations, purpose and focus of time together

Open the interview

- Communicate warmth, respect, concern
- Address person by name and introduce self
- Explain purpose, provide structure, clarify expectations
- Let the patient know what is expected and how they can be helpful

Close the interview

- Make sure the patient is comfortable
- If emotionally difficult material was discussed, be sure the patient feels acknowledged and ready for closure
- Important for the patient to know of future options for further consideration and discussion

Techniques to facilitate Therapeutic Communication

- Silence
- Convey regard and care
- Recognize and acknowledge
- Offer our genuine self
- Verbalize what we see or perceive
- Encourage description

Phases of the Relationship

- Beginning: Goal to establish trust
- Middle: Working phase, oriented toward action, problem-solving, intervention, beginning evaluation
- End: Termination, review, summary, planning for future, saying good bye

Preparing for the Interview

- Review chart, history, diagnosis and plan
- Discuss with colleagues
- Formulate goals and priorities for
- the interview

Formulate initial questions to clarify purpose, focus, expectations

Conduct the interview

Questions

- Open ended (e.g. What? How? Who? Where?…invites patient to talk and
- share) Closed (e.g. Are? Do? Did? Is? Can?... narrows focus and elicits specific information)
- Responses
- Nonverbal aspects

- Prepare for the ending at the beginning
- In advance of ending indicate ending is approaching
- Do not introduce new material
- Summarize the material
- Was anything left out?
- Refer to future plans
- Express appreciation

DAY

Breaking Bad News

Perrin (2019)

- Get the context right
- Find out what the patient and family already know
- Find out how much information the patient and family want to know
- Share information from the viewpoint of the patient and family
- Step by step description to bring their understanding along
- Frequent checks of understanding
- Respond with empathy to their often strong responses
- Explain the diagnosis, treatment, plan, prognosis
- Summarize and clarify what they can expect
- Obtaining Information and clarifying the problem
- Ask-Tell-Ask (Shannon, Long-Sutehall, and Cooms, 2011)

Ask what the patient knows

- "I was not here when Dr. Dey was in this morning, what did he say to you about your illness?"
- "What is most important to talk about now following that meeting?"
- "How are you? How is your family?"

Tell - Educate and Clarify

- Acknowledge and validate
- Empathize
- Share the plan of care
- Summarize the information shared

Ask again

- "What questions do you or your family have?"
- "What is important to you as you consider the discussion today?"
- "What worries you?"
- "What would you like us to know?"

Ask again

- "What are your fears?"
- "What are you hoping for?"
- "What is your faith or belief?"
- "How can we honour your faith and beliefs?"

Tell

- "We will be with you through your illness and will work to honour your goals and wishes…"

DAY

- **Set up** the conversation; Purpose, preparation for future decisions, ask permission
- **Assess** understanding and preferences for information
- With colleagues, **share** prognosis, allow silence and validate and explore emotions
- **Explore** important areas: Goals, fears, sources of strength, essential abilities, balancing risks and benefits, family concerns
- **Close** the conversation: Summarize, make recommendations, check in with patient and family, affirm your commitment
- **Document**
- **Communicate** with colleagues

Covid-19 Serious Illness Conversation Guide

Ariadne Labs (2020)

- Set up "This is a difficult and frightening time. As we plan for your care we would like to know what is important to you so we can provide the best possible care."
- Assess "What are you most concerned or worried about right now?"
- With colleagues, share prognosis "May I share how this illness might affect you?"
- Normal risk: "Because we are uncertain about the course of your illness, we are asking all patients to share what is important if they become very ill…"
- High risk: "Because you are at risk for becoming very sick, if you become very sick, I worry that treatments like breathing machines may not get you back to your normal life. This must be hard…"
- Explore "What is most important for your family and your providers to know? What abilities are so important that you cannot imagine living without them"
- "Some patients are willing to go through a lot even if the likelihood of survival is very low.
- Others wish to focus on comfort. How do you think about this?"
- Who do you trust to make medical decisions if you are unable to speak for yourself?"
- "How much do they know?
- Close "Thank you, I know this is difficult and I appreciate knowing what you have shared. What I heard you say was either:
- "Use of intensive care, if necessary. Should your condition change we will let you or your trusted decision maker know.
- Or "Provide only treatments that we think will be helpful or measures that will keep you comfortable"

"We can revisit your decision at any time. We will be here for you and your family and will do everything we can for you."

DAY

- Visitors
- Family Members
- Discharge Care and Instructions
- Recommendations for care of COVID-19 at home

Hospital Visitors
One visitor per Patient and MUST wear Mask at all times

Family Members
Recommendations for Family Members who has been in contact with a patient who has COVID-19

- **ISOLATE AT HOME for 10-14days**
- **WEAR A MASK (if someone else is within 6 feet of you or sharing the same space)**
- **WASH HANDS (for 20 seconds)/USE HAND SANATIZER before touching any**

https://www.buffalo.edu/

Fig 28: Community Care For COVID-19

Discharge Care And Instructions

A Patient with Severe –Critical Illness OR are Immunocompromised may end Quarantine:

- At least 10 -20 days have passed since symptoms first appeared and
- At least 24 hours have passed since last fever without the use of fever-reducing medications and
- Symptoms (e.g., cough, shortness of breath) have improved

A Patient with Mild- Moderate Illness may end Quarantine:

- At least 10 days have passed since symptoms first appeared and
- At least 24 hours have passed since last fever without the use of fever-reducing medications and
- Symptoms (e.g., cough, shortness of breath) have improved

https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html

DAY TWO

Care for COVID-19 Patients at Home

- Isolate patient in room for quarantine of 10 days (longer if fevers and symptoms continue)
- Seek care for breathing difficulties
- Ibuprofen, Paracetamol for fever and pain
- Hydrate
- Rest
- Sleep on pillows to improve breathing

Avoid sharing personal items

- Do not share: Do not share dishes, cups/glasses, silverware, towels, bedding, or electronics (like a cell phone) with the person who is sick.

The person who is sick

- The person who is sick should wear a mask when they are around other people at home and out (including before they enter a doctor's office)
- The mask helps prevent a person who is sick from spreading the virus to others. It keeps respiratory droplets contained and from reaching other people.
- Masks should not be placed on young children under age 2, anyone who has trouble breathing, or is not able to remove the covering without help.

Note: During the COVID-19 pandemic, medical grade masks are reserved for healthcare workers and some first responders.

https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/care-for-someone.html

Wash Surfaces with Alcohol

Laundry: Solution:

- Every surface touched
- Each use of the bathroom

- Wash in hot water
- Wash hands after washing laundry

Patient teaching:

When to seek emergency medical attention:

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion
- Inability to wake or stay awake
- Bluish lips or face

Caring For COVID-19 At Home

- Stay separated: The person who is sick should eat (or be fed) in their room, if possible. Eat in separate rooms or areas
- Wash dishes and utensils using gloves and hot water: Handle any dishes, cups/glasses, or silverware used by the person who is sick with gloves
- Wash them with soap and hot water or in a dishwasher
- Clean Hands after taking off gloves or handling used items

Caregiver

- Wear gloves when you touch or have contact with the sick person's blood, stool, or body fluids, such as saliva, mucus, vomit, and urine. Throw out gloves into a lined trash can and wash hands right away.
- The caregiver should ask the sick person to put on a mask before entering the room.
- The caregiver may also wear a mask when caring for a person who is sick.

To prevent getting sick, make sure you practice everyday preventive actions: clean hands often; avoid touching your eyes, nose, and mouth with unwashed hands; and frequently clean and disinfect surfaces.

Trash:

Use a trash bag to isolate trash - Wash hands after removing trash

DAY THREE

Topic	Late Complication of COVID 19
Objectives	1.Understand long term myriads of system disorders: The long- haul symptoms 2.Learning about the need of identifying these long-term clinical problems while the patients are still in “acute illness phase”

Topic	Case Presentation: A special Attempt to educate the nurses on SOAP (Subjective, Objective, Assessment, Plans)

Topic	Well Being of Healthcare Providers - Mental and Physical Well Being of Nurses
Objectives	1. Learning of the risks to the health providers 2.Understanding of the impact of the CoV- 2 related complex problems on the mental health of care providers
Topic	COVID 19 : Its Public Health Image, Impact on the community
Objectives	1.Understanding the need of elevating the public health infrastructure to handle such pandemics now and in future 2.Learning of the strengths and resources that every community possess which can be used to help to successfully face the pandemic
Topic	Creating a Support Group for the Nurses and Mentorship
Objectives	Understanding the need and ways to support the new nurses

Quick Assessment and Certification

DAY THREE

Topic	Late Complication of COVID 19
Objectives	1. Understand long term myriads of system disorders: The long haul symptoms 2. Learning about the need of identifying these long term clinical problems while the patients are still in “acute illness phase”

Sequela, Long Term Care And Complications, At Home

- To understand symptoms of COVID 19 which are sequela and worsening illness not new or
- To understand care for the various sequela of Covid-19 after hospital
- discharge
  To understand how to council family members of Covid-19 patients regarding COVID-19
- Procedure to care for nonserious COVID-19 illness at home while protecting the community

Risk for critical illness

Healthy Individuals can become critically ill However,
it is most likely in the following population:

- Elderly
- Chronic kidney disease
- COPD (chronic obstructive pulmonary disease)
- Obesity (BMI of 30 or higher)
- Immunocompromised state (weakened immune system) from solid organ
- transplant Serious heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies
- Sickle cell
- disease Type 2 diabetes

Distribution Of Covid-19 In The Community

- 5-15% Of people with COVID-19- 19
- Will Become Critically Ill
  Estimates From A Study Of : 5700 Pts In New York, 1500 Patients In China, And
- 1600 Patients In Italy
  85-95% of People with COVID- 19 will not become critically ill

Which factors increase a person’s risk for becoming critically ill with OVID-19?

- Diabetes, Old age, COPD, Obesity
- Migraines, History of Breast Cancer, Osteoarthritis Hypertension, Recent Surgery, Depression

Common sequela of COVID-19:

- Fatigue Shortness of Breath and Cough
- Joint Pain
- Psychological/Neurological Sequela

Rare sequela of COVID-19:

- Care after Thromboembolism
- Care after Cardiac Damage
- Care after Renal Damage

DAY

Fatigue

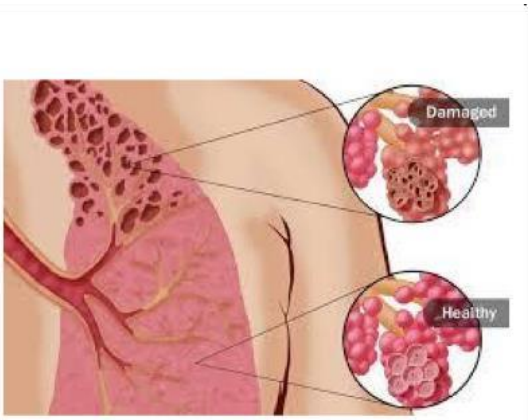
- Asymptomatic with persistent fatigue as the body recovers
- The duration of fatigue is proportional to the severity of illness.
- 1 week of illness = 1 week of fatigue after illness has subsided
- 3 months of illness = 3 months or longer of fatigue after illness has subsided

Shortness of breath

Following severe infection, shortness of may persist as the pleura heals

•This is expected in severe illness and not considered contagious after 20 days

•This is considered a symptom and may still be contagious in mild to moderate infection where the lungs are not damaged



aspenvalleyvapes.com

Fig 29: Common sequala after COVID-19 illness

Loss of Smell

Loss of taste and smell may persist for weeks or months after recovery and need not delay the end of isolation

Joint Pain

Typical following viral illness

- Temporary
- Inflammation of the joints by overwhelming inflammatory response to illness
- Take NSAIDs or Paracetamol

Neurological or Psychological Sequela

- Depression
- Anxiety
- Brain Fog

Brain Fog is the name for symptoms of slowed brain cognition /inability to think as efficiently or with as good judgement as you previously did. Patients recovering from ICU or serious COVIS-19 illness will have greater incidence of “Brain Fog”

Previously healthy people with mild illness have reported that it takes 14-21 days to return their normal health after testing positive for COVID-19

- True
- False

DAY

Deciding when a patient is no longer contagious

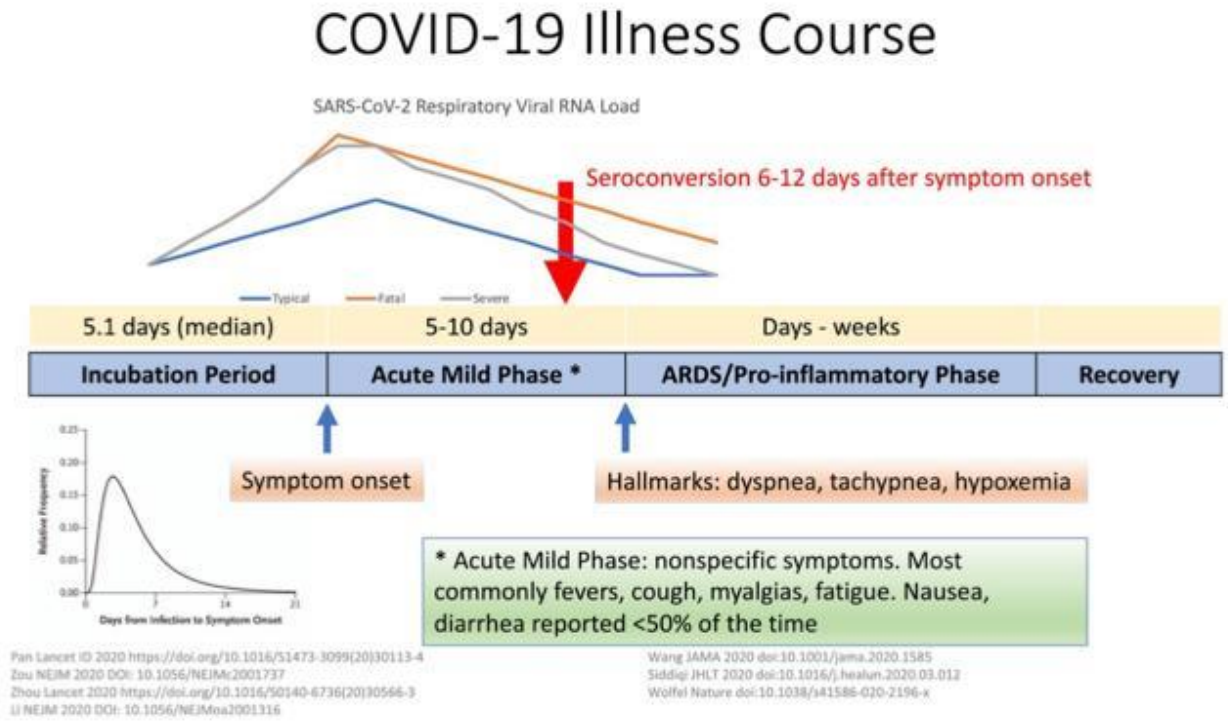


Fig 30: COVID-19 Illness Course

A more severe illness, may be more contagious, and be contagious longer.

A Patient with Severe –Critical Illness OR are Immunocompromised may end Quarantine:

- At least 10 -20 days have passed since symptoms first appeared and
- At least 24 hours have passed since last fever without the use of fever-reducing medications and
- Symptoms (e.g., cough, shortness of breath) have improved

A Patient with Mild- Moderate Illness may end Quarantine:

- At least 10 days have passed since symptoms first appeared and
- At least 24 hours have passed since last fever without the use of fever-reducing medications and
- Symptoms (e.g., cough, shortness of breath) have improved

https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html

Rare sequela of COVID-19

Acute and chronic cardiac injury from COVID-19 illness

- 5-25% of COVID-19 patients will have cardiac involvement
  - Lasting Cardiac Damage
  - Lasting kidney damage
  - Care after thromboembolism

Acute injury

- Electricalventricular Storm
- Transient Atrioventricular Block
- Sinus Node Dysfunction
- Myocarditis
- STEMI - Long Term Treatment after Heart Attack

DAY

Chronic Injury
Acute Cardiac Complications

Long Term Treatment for:

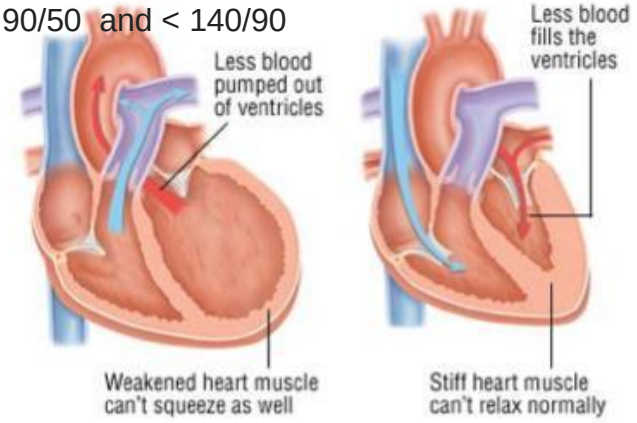
Myocarditis

- Heart Failure
- Inflammation of the heart muscle
- Sick Sinus Syndrome
- Triggers: viruses, bacterial illness
- Reversible
- Can leave long term cardiac damage
- Symptoms:
  - Chest Pain
  - Irregular heart rhythms
  - Shortness of breath
- Complications
  - Heart failure
  - Heart attack or stroke
  - Rapid or abnormal heart rhythms
  - Sudden cardiac death

Care For Chronic Cardiac Damage

Treatment of Heart Failure

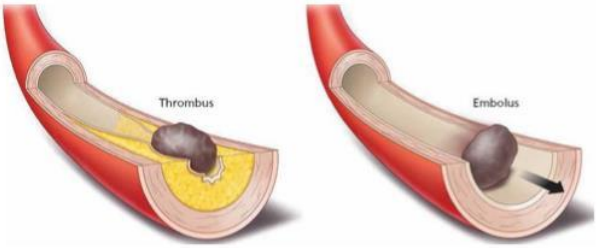
- Beta Blockers: decrease heart rate and cardiac demand
- Beta Blockers "olol": Metoprolol, Atenolol
- Diuretics: remove excess fluid the heart is unable to pump forward, Furosemide, Budesonide, Hydrochlorothiazide
- Check daily weights
- Advise to return to the doctor for: increasing shortness of breath (fluid overload)
- Antihypertensives to maintain blood pressure goal: > 90/50 and < 140/90

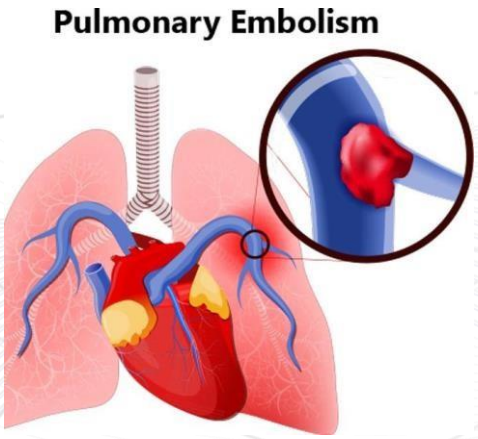


https://www.drugs.com/health-guide/heart-failure.html

Fig 31: Chronic Cardiac Damage

Embolism





https://www.heartplace.com/what-we-treat-pulmonary-embolism

Fig 32: Embolism

Pulmonary Embolism

Pulmonary Embolism is Embolus that obstructs the lungs

Symptoms of Pulmonary Embolism includes Shortness of breath, decreased oxygen saturation With/without tachycardia

Diagnostics:

- Chest CT
- Elevated D-Dimer- nonspecific test, poor renal function and inflammation can also increase a D-Dimer

Treatment:

- 30% Mortality without treatment, significantly reduced with anticoagulation
- Warfarin (target INR 2.0-3.0)
- Heparin
- Rivaroxaban (Xarelto), Apixaban (Eliquis)

DAY

Deep Vein Thromboembolism (DVT)

DVT is Thromboembolism that obstructs a vein of the legs

Symptoms of DVT:

- Swollen, Red, Warm Calf
- Decreased pedal pulse or decrease capillary refill of the feet

DVT Prevention:

- 31% thrombosis in ICU patients Heparin SC prophylaxis is recommended

Acute Kidney Injury

Acute Kidney Injury is prevalent in Covid-19: estimated 15%

- Discharge instructions for patients:
- Hydrate 2 litres of water per day
- Follow-up with doctor for repeat lab work
- Return to the doctor for dark urine or very little urine
- Patients with kidney damage should not take NSAIDs

Diagnostics:

- Lower Extremity Ultrasound
- Elevated D-Dimer- nonspecific test, poor renal function and
- inflammation can also increase a D-Dimer

Treatment:

10 days to 3 months depending on severity

- Heparin, Rivaroxaban (Xarelto), Apixaban (Eliquis)
- Elevate leg
- Early Ambulation is encouraged
- Compression Stockings: data shows no harm, no necessary benefit

DAY THREE

Topic	Case Presentation: A special Attempt to educate the nurses on SOAP (Subjective, Objective, Assessment, Plans)

Subjective Objective Assessment and Plan

The **SOAP note** (**subjective**, **objective**, **assessment**, and **plan**) is a communication tool and method of documentation used by healthcare providers to write out notes in patient's chart. Documenting patient record is an important part of practice workflow and to monitor patient progress. It is very important to note down patient check-in and exam, documentation of notes, check-out and rescheduling. Additionally, it serves as a general cognitive framework for physicians to follow as they assess their patients. The SOAP note originated from the *problem-oriented medical record* (POMR), developed nearly 50 years ago by Lawrence Weed, MD.

Due to its clear objectives, the SOAP note provides physicians a way to standardize the organization of a patient's information to reduce confusion when patients are seen by various members of healthcare professionals.

Example of a

SOAP Contents

- Components
  - Subjective Component
    - Chief Complaint
    - History of Present Illness
    - History
    - Review of Systems
  - Objective Component
  - Assessment Component
  - Plan Component
- An Example
- References
- Further Reading

DAY THREE

Components

The four components of a SOAP note are Subjective, Objective, Assessment, and Plan. The length and focus of each component of a SOAP note vary depending on the specialty; for instance, a surgical SOAP note is likely to be much briefer than a medical SOAP note, and will focus on issues that relate to post-surgical status.

Subjective component

Chief Complaint (CC)

The patient's *chief complaint*, or CC, is a brief statement of the patient (quoted) as to the purpose of the office visit or hospitalization. There can be multiple CC's, but identifying the most significant one is vital to make a proper diagnosis.

History of Present Illness (HPI)

The physician will take a *history of present illness*, or HPI, of the CC. This describes the patient's current condition from the time of initial sign/symptom to the present begining with the patient's age, sex, and reason for visit, and then the history and state of experienced symptoms are recorded.

For example:

- **O**nset
  - *"When did the CC begin?"*
- **L**ocation
  - *"Where is the CC located?"*
- **D**uration
  - *"How long has the CC been going for?"*
- **CH**aracter
  - *"Can you describe the CC you're experiencing?"*
- **A**lleviating/**A**ggravating factors
  - *"What makes the CC better and worse?"*
- **R**adiation
  - *"Does the CC move or stay in one spot?"*
- **T**emporal pattern
  - *"Is there a particular time of day when the CC is better or worse?"*
- **S**everity
  - *"On a scale of 1 to 10 (10 being the worst pain you've experienced), how would you rate the CC?"*

Subsequent visits for the same problem briefly summarize the HPI, including pertinent testing and results, referrals, treatments, outcomes and follow-ups.

History

Pertinent medical history, surgical history (with year and surgeon if possible), family history, and social history is recorded.

Review of Systems (ROS)

DAY

Objective component

The objective section of the SOAP includes information that the healthcare provider observes or measures from the patient's current presentation, such as:

- Vital signs, including height, weight, blood pressure and physical examination must be noted.
- Results from laboratory and other diagnostic tests already completed.

Assessment component

A medical diagnosis for the purpose of the medical visit and other possible diagnoses usually in order of most likely to least likely. The assessment will also include possible and likely etiologies of the patient's problem. It is the patient's progress since the last visit, and overall progress towards the patient's goal from the physician's perspective.

Plan Component

The plan is what the health care provider will do to treat the patient's concerns—such as ordering further labs, radiological work up, referrals given, procedures performed, medications given and education provided. The plan will also include goals of therapy and patient-specific drug and disease- state monitoring parameters. Patients who have multiple health problems that are addressed in the SOAP note, a plan is developed for each problem and is numbered accordingly based on severity and urgency for therapy. A note of what was discussed or advised with the patient as well as timings for further review or follow-up are generally included.

An example

A very rough example follows for a patient being reviewed following an appendectomy. This example resembles a surgical SOAP note; medical notes tend to be more detailed, especially in the subjective and objective sections.

	Surgery Service, Dr. Jones
S:	No further Chest Pain or Shortness of Breath. "Feeling better today." Patient reports headache.
O:	Afebrile, P 84, R 16, BP 130/82. No acute distress.
	Neck no JVD, Lungs clear
	Cor RRR
	Abd Bowel sounds present, mild RLQ tenderness, less than yesterday. Wounds look clean.
	Ext without edema
A:	Patient is a 37-year-old man on post-operative day 2 for laparoscopic appendectomy. Recovering well.
P:	Advance diet. Continue to monitor labs. Follow-up with Cardiology within three days of discharge for stress testing as an out-patient. Prepare for discharge home tomorrow morning.

DAY THREE

The plan itself includes various components:

- Diagnostic component: continue to monitor labs
- Therapeutic component: advance diet
- Referrals: follow up with Cardiology within three days of discharge for stress testing as an out-patient.
- Patient education component: that is progressing well
- Disposition component: discharge to home in the morning

DAY THREE

Topic	Well Being of Healthcare Providers - Mental and Physical Well Being of Nurses
Objectives	1. Learning of the risks to the health providers 2.Understanding of the impact of the CoV- 2 related complex problems on the mental health of care providers

The Importance of Knowing Our Patients

Comprehensive assessment is essential:

- Age, roles, goals
- Degree of crisis and disruption
- History or presence of psychiatric illness
- Internal and external sources of support
- Meaning of the illness
- Meaning of psycho-social-spiritual dimensions of illness
- What helps the patient to cope with major life challenges

Emotional Impact of the Diagnosis:

- Identification of what is important to patient and family
- Immediate concerns
- Understanding what has been important over the course of the patient's life and in current situation
- Mutually establishing guidelines for care
- Maintaining realistic hope

Planning in the event the patient cannot speak for themselves

Intervening with Covid-19 Patients and Families

- Validation of powerful feelings
- Education and assistance with role changes
- Importance of advance planning
- Identifying health care decision maker if patient unable to make decisions
- Assisting with documentation of what is important and wishes in setting of critical illness
- Importance of spiritual care
- Specialist referrals as indicated
- Assess and nurture hope - but do not collude in clouding reality

DAY

To do all of this well Nurses, Midwives and all Healthcare Providers need to be strong, they need to be educated, trained and of sound mental and physical health. For this we must be mindful of the following:

- Interprofessional collaboration is critical
- Creating an environment of caring
- Context and environment we create are critical
- We create a sacred space
- Patients and families are held in caring as they confront and move through powerful processes and feelings
- Nurses are held in that caring context, as well
- Recognizing what we have to offer one another as we engage in this challenging work
- Shifting the lens of caring
- Sharing the value of making a difference in critical times
- Offering comfort in relation to suffering
- Assistance with making meaning in times of enormous challenge
- Recognizing the link between coping and evolving hope
- Recognition together of the importance and challenge of this work
- Mutual support
- Offering presence to one another
- Assistance with colleagues to give time when crisis or severity of emotional response requires additional time
- Open and free communication among nurses and among team members is essential

The Importance of Caring for Nurses is directly related to the quality of care provided by nurses

In caring environments, nurses comfortably:

- Focus on the important things
- Focus on immediate concerns
- Offer presence, validation
- Assess and respond to suffering and needs
- Make a powerful difference
- Experience deep satisfaction with work
- Recognize the importance of caring for self
- Have a Rich life outside work
- Stay in touch with what is important
- Should take Regular vacations
- Exercise
- Nurture deepest aspects of self

DAY THREE

Topic	Creating a Support Group for the Nurses and Mentorship
Objectives	Understanding the need and ways to support the new nurses

Delivery method: Discussions - interactive

Objective: This session is mainly to inspire the trainee Nurses for having a common understanding on the purpose of impactful conversation with patients – their families and care givers on various issues related to the patient care and well- being ; and also breaking the barrier of speaking to the senior colleagues that poses challenging from his/her side and obtaining the required support.

Mentorship - general understanding : Mentorship is basically building a trusted relationship between two – with one experienced person/professional to play the role of a ***guide on any given issue or situation, who will listen to the other and deals the issue without biasness and being judgemental or critical.*** Mentorship asks for listening and guiding in a non-threat manner. Trust is the key to develop Mentorship relationship.

Mentorship in Nursing profession: In every day work life in any set up – in a hospital or care giving centre, a Nurse mainly deals with the patients as well as with the physician/s who are proving the treatment protocols to that patient/s. The incumbent Nurse needs to give a substantial portion of her/his time in communicating with the patient first and also to the attending relative/s and key care giver of the patient on day to day basis to keep them up to date on the treatment status of that patient.

So, it is important for a Nurse to learn the techniques and manners of dealing with the patients and the family member/s or so, by following the core principle of the mentorship techniques in order to have a professional dialogue - conversion without any judgment and biasness or non-threat manner. At the same time, the respective Nurse needs to communicate with patience in difficult situation and provide the professional guidance for the best interest of the patient. The Nurse here plays the role of a Mentor to the patient and the relatives by giving the feel of a person with whom they can speak & ask questions without a barrier or reservation and shall find the answer in a supporting manner.

On the other hand for a professional Nurse for her own support and growth, it is also important to find a senior/experienced Mentor preferably in her service area who is knowledgeable and trusted enough to share the thoughts and challenges for his or her professional life and get the required guidance from the Mentor. In our everyday life situation, we play both the roles – sometime becoming a Mentor and also be a Mentee.

Conversation – discussion with the Trainees: In this segment, the Trainer will invite trainees to share their experiences in two settings. Consider the available time, the Trainer can limit the number of both sides sharing

- When a Nurse is Playing the Role of a Mentor to his/her patients and associated to the patient;
- When the Nurse himself/herself become the Mentee of a Mentor and how she finds the role

DAY THREE

What makes a good mentor – Qualities of a Mentor

Active listening, Role modelling, Clear boundaries, Analytical skills, Honest feedback in Positive Manner, Caring attitude – who helps in overcoming the difficulties and challenges of the Mentee with guidance and directions for personal and professional development and wellbeing.

Difference between Supervision and Mentoring:

One of the major **differences between supervision** and **mentoring**
Supervision is often task oriented – monitoring check by a Sr. person/boss/ by the Reporting Officer (who checks completion of a job, decides performance level and related issues, keeps an eye on the
supervisee/Jr/s ;

While Mentor plays the role of a Supporting Guide.

DAY THREE

Topic	COVID 19 : Its Public Health Image, Impact on the community
Objectives	1.Understanding the need of elevating the public health infrastructure to handle such pandemics now and in future 2.Learning of the strengths and resources that every community possess which can be used to help to successfully face the pandemic

Etiology of Psychiatric Distress in Covid-19 Patients and Families

- Psychosocial stressors
- What psychosocial factors contribute to emotional distress and psychiatric disorders?
- Physiological stressors
- What physiological factors contribute to emotional distress and psychiatric disorders?

Covid-19 Factors that Contribute to Distress and Psychiatric Complications

- Neuropsychiatric conditions associated with hospitalized Covid-19 patients
- Helms, J., Kremer, S., Merdi H., et al. (2020) found multiple conditions and concerns:
- Agitation (67%)
- Confusion (65%)
- Neuropsychiatric disorders (33%) thought to be related to:
- Encephalopathy associated with massive inflammatory response
- Impacts of critical illness: respiratory, cardiovascular, renal, hematological distress
- Metabolic disturbances
- Cytokines
- Medications

Psychosocial Factors: Emotional Impact of Covid-19

- Uncertainty
- Fear
- Possibility of death
- Disability
- Pain and suffering
- Isolation
- Contagion
- Being a burden
- Loss of independence

Covid-19 Factors that Contribute to Distress and Psychiatric Complications

- Neuropsychiatric conditions associated with hospitalized Covid-19 patients
- Romero-Sanchez, CM, Diaz-Maroto, I, Dernandez-Diaz, E, et al (2020) found that 60% of patients experienced one or more of the following:
- Anxiety
- Delirium
- Depression
- Dizziness
- Dyseugia (altered taste)
- Headache
- Insomnia
- Myalgias

DAY THREE

Complex Responses and Psychiatric Distress

- Depression
- Anxiety
- Delirium
- Post Traumatic Stress Disorder
- Important Principle: Always rule out a physiological explanation before ruling in a psychiatric explanation
- Complex Responses and Psychiatric Distress
- Distinguishing psychiatric illness from normal intense responses

What would we anticipate a normal worry response to be in a Covid-19 patient or family member?

Complex Responses and Psychiatric Distress

- Anxiety disorders
- DSM V
- Excessive worry or anxiety most days (for six months)
- Anxiety is difficult to control
- Restlessness
- Fatigue
- Difficulty concentrating
- Irritability
- Muscle tension
- Sleep disturbance
- Impact on quality of life
- Medical conditions that present as anxiety
- Difficulty breathing!!!
- Pulmonary emboli
- Akathisia (motor restlessness) related to dopamine antagonists used to treat nausea and agitation
- Stop offending drug
- If symptoms persist may treat with lorazepam (Ativan) or diphenhydramine (Benadryl)
- Alcohol withdrawal
- Benzodiazepine withdrawal

Major Depressive Disorder DSM V

Change from previous functioning

- Depressed mood or loss of pleasure, interest must be among symptoms
- Pervasive depressed mood
- Anhedonia
- Change in weight
- Sleep disturbance
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Excessive guilt or worthlessness
- Difficulty concentrating
- Recurrent thoughts of death or suicide
- Medical conditions that can present as depression
- Hypercalcemia
- Hypothyroidism
- Some cancers
- Dementia
- Parkinson's Disease
- Substance-induced mood disorder

Complex Responses and Psychiatric Distress

- Distinguishing depression from bereavement
- Bereavement: identifiable loss
- Self-esteem remains intact - worthlessness not present
- Excessive guilt not present
- Suicidal assessment if depression present

Risk factors

- Elderly
- Psychiatric disorders
- Medical illness
- Living alone
- Recent loss
- Financial or legal problems
- Unemployment

DAY THREE

Complex Responses and Psychiatric Distress

- Suicide risk factors (continued)
- Family history
- Prior attempt
- Suicidal ideation or intent
- Hopelessness
- Firearm possession

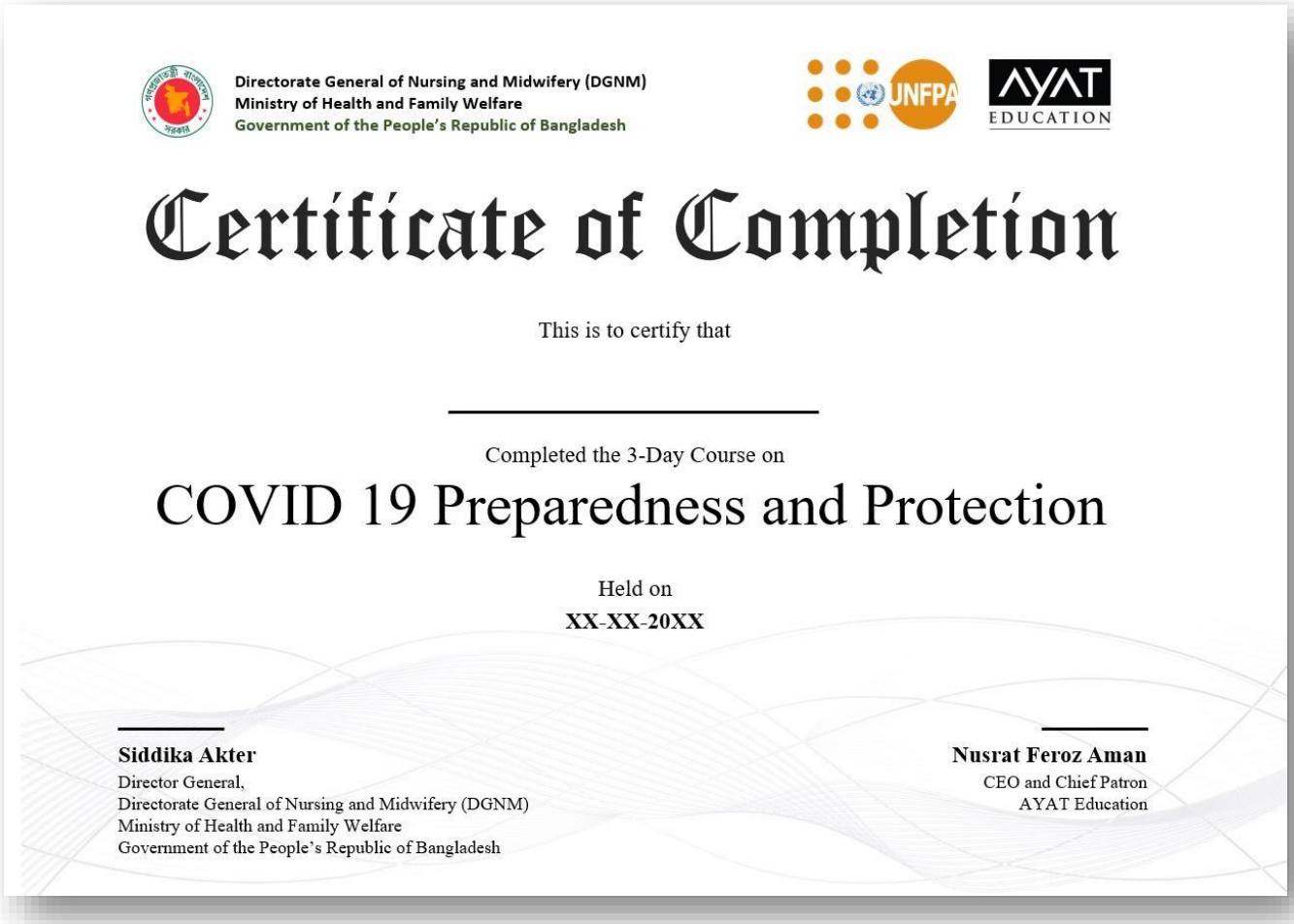
Complex Responses and Psychiatric Distress

- Suicide evaluation
- Assessment of ideation and intent
- Assessment of suicide plan
- Means
- Risk-rescue ratio
- Precipitants
- Supports
- Mental status assessment
- Suicidal Assessment
- Empathic questioning of sense of desperation or hopelessness
- “Are you feeling so badly that you are thinking about hurting yourself or killing yourself?”
- Risk for suicide represents a psychiatric emergency
- Know of resources 24 hours a day

Intervening with Covid-19 Patients and Families

- Care creates lasting memories
- Compassionate presence
- Active listening
- Touch
- Silence

Certification of



Directorate General of Nursing and Midwifery (DGNM)
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh

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Held on

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Siddika Akter
Director General,
Directorate General of Nursing and Midwifery (DGNM)
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh

Nusrat Feroz Aman
CEO and Chief Patron
AYAT Education

DECEMBER 2020

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		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOTE

NOTE

TRAINING FOR NEWLY RECRUITED NURSES AND MIDWIVES IN RESPONSE TO COVID 19 OUTBREAK

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