Coronavirus Disease 2019 (COVID-19)
Train the Trainer
Nursing: Infection Control Session

Outline

- Overview coronaviruses /COVID-19
- Mode of spread
- Preventive measures
  - Hand Hygiene / Cough etiquette
  - Safe distancing
  - Standard precautions
  - Isolation precautions
- Personal Protective Equipment (PPE) for donning and doffing
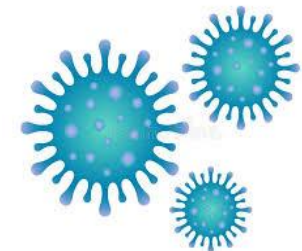- Cleaning and disinfection of equipment and environment

Outline

- Triage
- COVID Unit set up:
  - Patient placement
  - Visitation policy
  - Specimen packaging
  - Respiratory management
  - Postmortem care (preparation of the body at unit & at the morgue)
- Staff with possible exposure
- Resources

Overview Coronaviruses /COVID-19

- Coronaviruses are a large family of viruses which may cause illness in animals or humans.
- In humans, coronaviruses cause mild to severe respiratory symptoms, example of viruses causing large outbreaks:
  - Middle East Respiratory Syndrome (MERS)
  - Severe Acute Respiratory Syndrome (SARS)
  - The most recent is **coronavirus causing COVID-19**

- Person to person through small droplets from the nose or mouth (coughing, sneezing, or speaking) ⟶ safe distancing, and wearing required PPE in hospital setting

- Touching contaminated objects or surfaces, then touching the eyes, nose or mouth ⟶ Hand hygiene, sanitization

- Ongoing research on modes of COVID-19 transmission

Preventive Measures

Perform hand hygiene frequently:
- Using alcohol-based hand rub if hands are not visibly soiled: 20-30 seconds
- Using soap and water, if hands visibly soiled: 40-60 seconds

Cover nose and mouth when coughing or sneezing:
- Use tissue and dispose immediately after use
- When tissues are not available, flex your elbow to cover mouth and nose
- Perform hand hygiene
- Do not touch face and nose with potentially contaminated hands

For all patients in all settings at all times regardless of symptoms :

- Hand hygiene
- Respiratory hygiene and cough etiquette
- Use of personal protective equipment (PPE) based on risk assessment
- Safe injection practices

- Environmental cleaning and disinfection (Based on the available solutions and supplies)
- Waste management
- Linen management
- Cleaning/disinfection of patient care equipment (or use of disposable items)

Visitors must check with the nurse before entering the patient room under isolation

Transmission Based Precautions

1. **Contact: multidrug resistant organisms**

2. **Droplet: influenza**

3. **Airborne: tuberculosis, chicken pox or measles**

4. **Combined: COVID-19 (contact and droplet)**

Post Isolation sign at room entrance

Contact/Droplets Precautions

Before entering the isolation room of the patient:

Hand Hygiene before wearing PPE

1. **Gown:** to protect clothes

2. **Surgical mask:** to protect from respiratory droplets

3. **Goggles/Face shield:** to protect from respiratory droplets

4. **Gloves:** to prevent contamination

Post Isolation sign at room entrance

Aerosol Generating Procedure (AGP)

- Bronchoscopy

- Cardiopulmonary resuscitation

- Respiratory specimen collection

- BiPAP ventilation

- Endotracheal intubation/Airway suction

- Tracheostomy

- Nebulizer treatment

Airborne Precautions

https://www.cdc.gov/infectioncontrol/guidelines/isolation/index.html

Donning and Removing PPE

Sequence of Donning and Removing PPE including Aerosol Generating Procedure (AGP)

CONTACT AND DROPLET PRECAUTIONS

إحتياطات الإتصال والرذاذ

BEFORE ENTERING THE ROOM:

قبل دخول الغرفة:

Clean your hands.

نظف يديك.

Wear the protective gown.

قم بارتداء الرداء الواقي.

Wear face mask/ Wear N95 mask for aerosol generating procedures [AGP]).

إرتد القناع الطبي/ إرتد قناع التنفس الخاص N95 للAGP.

Wear goggles or face shield.

قم بارتداء النظارات الواقية أو واقي الوجه.

Wear gloves.

إرتد القفازات.

BEFORE LEAVING THE ROOM: | قبل مغادرة الغرفة:

English	العربية
Remove gloves.	قم بنزع القفازات الواقية.
Remove the protective gown.	قم بنزع الرداء الواقي.
OUTSIDE PATIENT ROOM	**خارج غرفة المريض**
Clean your hands.	نظف يديك.
Remove goggles or face shield.	قم بنزع النظارات الواقية أو واقي الوجه.
Remove face mask/ N95 mask.	قم بنزع القناع الطبي/قناع التنفس الخاص N95.
Clean your hands.	نظف يديك.

الاستحمام قبل الخروج من المستشفى أو عند الوصول الى البيت

إستخدام حذاء خاص للمستشفى فقط

- Ensure that the outer container is sealed securely and labelled correctly

- Place the specimen in double Ziploc bags

- Place the Ziploc bags into a secondary container along with frozen ice pack

- Transport the sample immediately to the assigned lab

Cleaning/Disinfection of Equipment

1. Dedicate medical equipment for patients known or suspected for COVID-19
2. Clean/disinfect all non-dedicated, non-disposable equipment after use
3. Wear gloves
4. Don impermeable gown and a shielded mask **if splashes are expected**

1. Adequately apply the hospital-approved disinfectant onto a clean lint-free cloth (Do not oversoak) or use the disinfectant wipes (change once it has dried)
2. Wipe the entire dimensions of the item from least to most contaminated area, from top to bottom
3. Inspect the cleanliness and reapply the wipes/cloth when visible soiled
4. Leave disinfectant on item as per manufacturer's <u>contact time before reuse</u>
5. Keep clean equipment in a <u>labelled clean plastic bags</u> and store in a clean area

Inform housekeeping staff to clean/disinfect isolation room after discharge of patient

Triage: Screening Questions According to WHO/CDC Case Definition

Case Definition: Patients Under Investigation
Acute respiratory infection: Fever/chills, cough, difficulty breathing, new loss of smell or taste, sore throat, runny nose or congestion, myalgia, nausea/vomiting, diarrhea, AND NO other etiology that fully explains the clinical presentation
OR any of the below criteria
Respiratory symptoms with close contact with a suspected or confirmed COVID-19 case within the last 14 days
International traveler with respiratory symptoms manifesting within 14 days from arrival to Lebanon
Any patient with either clinical or radiological evidence of pneumonia

Patient is suspected

Isolate Patient/Staff to wear PPE/ Inform

- Place surgical facemask on patient and all companions
- Keep at least 2 meters distance between suspected patients while waiting in ED
- Isolate patient in a private room under **contact and droplet precautions**
- Limit exposure to one RN and one physician
- PPE for Staff: Disposable impermeable long sleeve gown; surgical mask/N95 mask, goggles or face shield, and gloves
- Notify the attending physician of the patient and the nurse in charge
- Maintain a record of **All persons entering the patient's room (staff and visitors)**

Patient is suspected

Patient Disposition & Results Management

- Discharge low acuity patients with self-quarantine instructions pending COVID-19 PCR test results
- Patients with **lab confirmation for COVID-19 PCR** who need admission will be placed in isolation
- **Separate COVID- Units: Place all** Patients **with COVID-19 under contact and droplet precautions**
- Inform Ministry of Public Health to inform about all positive cases
- Inform discharged patients with positive results for further evaluation

If rescheduling is not possible for patients coming to clinics, clinical exam with both wearing a face mask, and the physician wearing gloves, impermeable gown and eyes protection

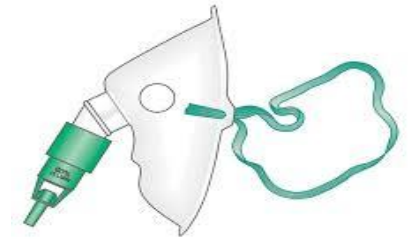# COVID Unit Set Up Patient Placement

- Dedicate a separate access to this unit.

- Formulate processes for patient admission, transport between departments, department notification, discharge, and other treatment processes

- Apply Infection Control Measures at the hospital entrance

- Place patients in a negative pressure room if available

- Restrict visits to hospitalized COVID patients (babysitters/special care)

1.Oxygen Therapy: nasal canula or face mask

- Initiate O2 therapy at 6 L/min to reach target:
  - ➢ SPO2 ≥90% in non-pregnant patients
  - ➢SPO2 ≥92-95 % in pregnant patients

2.Non-rebreather mask

- Initiate O2 therapy at 10 L/min maximum to reach same target

AGP add N95 to PPE

3.High-flow Nasal Cannula(HFNC)

- Used only if patient is placed in a negative pressure room or well ventilated single room

Place a surgical facemask on top of the HFNC for the patient if possible

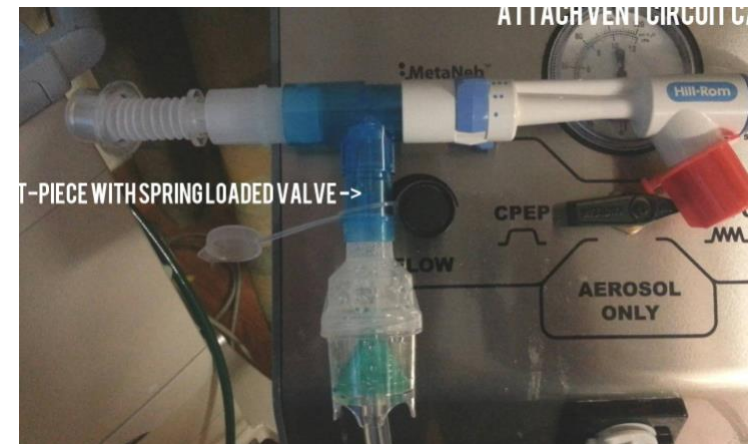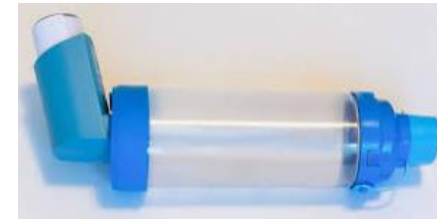**Performed under airborne isolation precautions**

- Pre-oxygenate patient with 100% FiO2 for 5 minutes, via a facemask with reservoir bag, HFNC Or Bag-valve mask (ambu-bag)

- Ensure that a filter is inserted between the mask and manual ventilator

- Recommend <u>rapid sequence intubation (protocol)</u>

- Use Glidescope when available instead of laryngoscope (to decrease the number of intubation attempts)

- Use closed suction system

- Avoid use of nebulizer therapy

To administer inhaled bronchodilators

- Use Meter Drug Inhaler (MDI) equipped with filter

- Use MDI with spacer if needed

- Use an in-line vibrating mesh nebulizer (VMN) in a completely closed ventilator breathing circuit

- Full PPE shall be worn BEFORE contact with the body including:
  - N95 mask and face shield or goggles
- The body shall be wrapped in a clean white linen sheet (in a way that prevents contamination of the outside of linen sheet)
- Apply adhesive to secure the linen
- After wrapping, the body shall be immediately placed in a single leak-proof plastic bag or impermeable body bag and closed

- Wipe down bag with disinfectant wipes

- Place the body in a second impermeable body bag and close it

- Wipe down transport morgue cart with disinfectant wipes per usual protocol

- Treat body as per hospital procedures and religious rituals

- Surface decontamination: Following the removal of the body, the patient room shall be cleaned, disinfected and sprayed by the housekeeping staff (use a bactericidal/virucidal disinfectant)

REPUBLIC OF LEBANON

MINISTRY OF PUBLIC HEALTH

The Director General

الجمهوريـــة اللبنـــانيـــة

وزارة الصحة العامة

المديـر العـــام

المحفوظات: ١/١

مذكرة رقم ٦١

بيروت في: ١ آذار ٢٠٢٠

حول الإرشادات الخاصة بتغليف ونقل الجثث البشرية المشتبهة أو المؤكدة

إصابتها بفيروس كورونا المستجد ٢٠١٩

ان فيروس كورونا المستجد ٢٠١٩ يعتمد على الخلايا الحية لكي يعيش، وبعد موت الانسان ينتقل بالتعرض لسوائل الجسم المعدية من خلال تناثر الرذاذ أثناء تجهيز وغسيل الجثمان يبقى حياً لفترة قد تمتد لساعات (المدة لا تتجاوز ٤٨ ساعة حسب منظمة الصحة العالمية).

وتجدر الاشارة انه لا توجد أي حاجة لإجراءات دفن استثنائية من ناحية عمق القبر الا أنه يجب اتباع الخطوات التالية أثناء عملية تكفين وتجهيز ونقل الجثث المشتبهة أو المؤكدة إصابتها بفيروس كورونا المستجد ٢٠١٩ وخلال مراسيم الدفن والعزاء.

١- عملية التكفين

✓ اذا كانت العملية لا تتطلب تغسيل:

- التنبه لعدم التعرض لسوائل المتوفي وحسن استعمال الواقيات أثناء تجهيز وتكفين الجثمان.

- استخدام الكمامة والقفازات مرة واحدة فقط والتخلص منها بشكل صحيح.

✓ اذا كانت العملية تتطلب تغسيل:

- قبل الاحتكاك بجسم المتوفي, يجب ارتداء معدات الوقاية الشخصية التي تتكون من:

❖ رداء عازل يغطي كامل الجسم مع الذراعين

❖ نظارات واقية (Eye Goggle) أو قناع للوجه (Face Shield)

❖ كمامة (Mask N95)

Circular MOPH
April 1, 2020

Staff with Possible Exposure

- Report recent unprotected exposure to suspected or confirmed COVID-19 case to assigned staff
- Report Acute Respiratory Infection symptoms

Each hospital needs to circulate to all staff:

Name and contact nb. of the assigned staff

PPE :
- ➢ Do not overuse
- ➢ Only as needed

Alcohol-based solutions:
- ➢ Increase sinks

- **Use rationally**
- **Search for alternative in case of shortages**
- **Consider reuse of disposable Goggles and N95 masks**

Resources

For further information related to COVID-19 please refer to the following AUBMC link

http://aubmc.org.lb/COVID-19/Pages/covid-19.html

References

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