COVID 19 – Infection Prevention and Control

Hospital Infection Control Committee
hicc@cmcvellore.ac.in
Coronavirus

- Common human coronaviruses – cause mild to moderate respiratory illness
- Outbreak causing corona virus:
  - SARS–CoV – Severe acute respiratory syndrome virus
  - MERS – Middle east respiratory syndrome virus
  - SARS–CoV 2 (COVID–19)
RESPIRATORY DROPLETS and contact transmission

- Droplets travel a distance of 1–2 meter
- Infection stay in fomites for (clothes, sheets, handkerchief etc)
How to identify a case of COVID 19?

Common symptoms

- Fever
- Cough – with/without sputum
- Fatigue and lethargy
- Shortness of breath

Median Incubation period:
- 4 – 5 days
- Maximum: 14 days
Flow Chart for Outpatient Triage of Adult patients with suspected COVID-19 infection – as of 20\textsuperscript{th} March 2020

\textbf{IF PREGNANT: Call Obstetric Medicine Team}
05239

\textbf{PRESENCE OF FEVER AND COUGH/OTHER RESPIRATORY SYMPTOMS FOR <10 DAYS}

\begin{itemize}
  \item CALL ADULT CASUALTY PAGER NUMBER: 05319
  \item Send patient to Isolation facility in Adult Emergency Department (Patients and Relatives to wear surgical masks during transfer)
\end{itemize}
Clinical criteria for admission:

**UNCOMPPLICATED ILLNESS**
(ALL of the following):
1. Respiratory rate <28/min
2. Pulse <120/min
3. NO hypoxia (SpO2 ≥94%)
4. NO shock or other organ failure

**ACTIONS:**
1. Treat primary illness as appropriate
2. No need for testing
3. Advise self-isolation at home
4. Explain danger signs & infection control precautions

**SUSPECTED MODERATE COVID-19**
(ALL of the following):
1. Respiratory rate ≥28/min but NOT needing ventilation
2. Pulse <120/min
3. NO severe hypoxia (SpO2 ≥85%)
4. NO shock or other organ failure

**ACTIONS:**
1. Treat primary illness as appropriate
2. Admit to Isolation Ward
3. Notify HICC (Ph 2013) the patient’s name, age, residential address, contact number, travel history (who will in turn inform Deputy Director Health Services (DDHS))

**SUSPECTED SEVERE COVID-19**
(ANY of the following):
1. Requires mechanical ventilation
2. Pulse ≥120/min
3. Severe hypoxia (SpO2 <85%)
4. Shock or other organ failure

**ACTIONS:**
1. Treat primary illness as appropriate
2. Arrange ICU admission, if beds available
3. Notify HICC (Ph 2013) the patient’s name, age, residential address, contact number, travel history (who will in turn inform Deputy Director Health Services (DDHS))

HICC 20th March 2020
Flow Chart for Management of Pediatric patients with suspected novel coronavirus (COVID-19) infection:
Acute (< 10 days) febrile (>38°C) respiratory illness (cough, sore throat, nasal congestion) +/- myalgia / headache /diarrhea AND History of international travel in the past 14 days OR Close contact with a. anyone who has traveled internationally within 14 days or b. a confirmed case of COVID-19 or c. a health care worker working in a facility treating respiratory infections.

Triage at Point of first entry into CMC

Child Health OPD

Pediatric Casualty

Send child to designated Isolation facility in Pediatric Casualty. (Child and parents to wear surgical masks during transport.)

Child examined by CMO / Pediatric ID doctor / CH-I/II-III (admitting unit) 3rd call in designated Isolation facility in Pediatric Casualty
Infection Prevention and Control precautions
Hand hygiene:

Soap and water

Alcohol based hand rub (ABHR)
Seven steps of effective hand washing

**STEP 1**
Rub palms together.

**STEP 2**
Rub the back of both hands.

**STEP 3**
Interlace fingers and rub hands together.

**STEP 4**
Interlock fingers and rub the back of fingers of both hands.

**STEP 5**
Rub thumb in a rotating manner followed by the area between index finger and thumb for both hands.

**STEP 6**
Rub fingertips on palm for both hands.

**STEP 7**
Rub both wrists in a rotating manner. Rinse and dry thoroughly.
Transmission based precautions

**Droplet and contact precautions:**
- During patient care
- During vitals checking
- To visit the patient
- Consultant rounds

**Airborne precautions:**
- Intubation with or without cardiopulmonary resuscitation
- Manual ventilation
- Non-invasive ventilation (Eg: BiPAP, CPAP) – avoid if possible
- Tracheostomy insertion
- Bronchoscopy
- Sputum induction
- Nebulization
- While taking oropharyngeal/nasopharyngeal swab.
**Personal Protective Equipment**

PPE protocol for other clinical areas is uploaded in intranet.
Dedicated space for donning of PPE

Wash your hands thoroughly with soap and water for a minute

Put on shoe covers and disposable apron for patient care

Put on fluid repellent gowns while performing aerosol generating procedures

Wear N95 mask

Put on goggles

Perform alcohol based hand hygiene

Put on gloves
Remove all the PPE inside the room itself

Remove the gown and gloves together rolling inside out, rolling them down and discard in yellow cover

Perform alcohol based hand hygiene

Remove the goggles

Perform alcohol based hand hygiene

Remove the mask from behind (do not touch the outer surface) and discard in yellow cover after coming out of the room

Wash your hand thoroughly after coming out the room with soap and water
IPC guidelines: Patient in triage and OPD care

✓ Triage and early recognition
✓ Prioritization of care of symptomatic patients
✓ Symptomatic patients – Give surgical masks
✓ Display posters and educational materials related to hand hygiene and cough etiquette.
IPC during patient transport from A&E to ward/ICU

Give a surgical mask to the patient

Notify the receiving area before sending the patient

Notify the lift security. Block the lift. Only one HCW and attender with appropriate PPE should accompany the patient.

Through cleaning of the area including lift with sodium hypochlorite (1%) after transportation
IPC in isolation ward:

✓ Single room with adequate ventilation
✓ Door of the isolation room to be kept closed all the time with signboard of droplet and contact isolation precautions.
✓ Limit the entry of personnel. Only essential HCWs should enter the room.
✓ Do no allow visit by relatives for adult patients;
✓ If young child needs to have a caregiver in the room, restrict to one person and provide appropriate PPE (surgical mask and gown)
✓ Maintain a daily log of all persons who care for or entered the room.
✓ Keep all the patient items outside the room.
IPC in ICU:

- Critical care units should wear PPE* inside the patient care area. (*Hazmat suit)
- Limit the personnel during aerosol generating procedures.
- Closed suction; Minimize aerosols.
- All the respiratory secretions should be disinfected with equal amounts of 1% Sodium hypochlorite with contact period of 30 minutes before disposal.
### Daily environmental cleaning & disinfection in fever clinic, isolation ward and medical ICU:

<table>
<thead>
<tr>
<th>Area</th>
<th>Cleaning and disinfection</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>High touch surfaces (cot, IV stand, furniture, door knobs)</td>
<td>Detergent followed by 1% sodium hypochlorite</td>
<td>Every 4 hours</td>
</tr>
<tr>
<td>Walls and floors</td>
<td>1% sodium hypochlorite</td>
<td>Thrice daily</td>
</tr>
<tr>
<td>Bathrooms</td>
<td>1% sodium hypochlorite</td>
<td>Thrice daily</td>
</tr>
<tr>
<td>Reusable equipments</td>
<td>70% Isopropyl alcohol</td>
<td>After each use</td>
</tr>
<tr>
<td>Stethoscope, BP apparatus, Pulseoximeter, Thermometer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portable X ray machine and cassettes</td>
<td>10% Hydrogen peroxide</td>
<td>After each use</td>
</tr>
</tbody>
</table>

**MOBILE PHONES STRICTLY NOT ALLOWED**
“High frequency” touch surfaces

- Telephone
- Mobile phone/pager
- Door knobs / handles
- Lift/elevator buttons
- Keypad & Mouse
- Chair arms (including wheel chairs)
- Hand rails
- Side rails of stretchers
All soiled linen should be soaked in 1% sodium hypochlorite for 30 minutes and then send for laundry. Machine washing with warm water at 60–90° C with laundry detergent is recommended. Linen can then be dried according to routine procedures.
Terminal disinfection:

- Pillows and mattress – Thorough cleaning with detergent, disinfected with 1% sodium hypochlorite and dried in sunlight for 24 hours.
- Bed sheets, curtains, patient gowns and dusters must be removed, soaked in 1% Sodium Hypochlorite for 1/2 hour and then send to the laundry.
- Wash the room, wall, window, doors, bathroom, sink and furniture with detergent after thorough high dusting (fan, clock) in that cubicle. Then disinfect with 1% sodium hypochlorite. Avoid creating aerosols, DONOT DO FOGGING OR SPRAYING INSIDE THE PATIENT ROOM.
Biomedical waste management

- **Three cover system**
  - First cover (Inside bin)
  - **Second cover** – cover layered by HHKA in ward – spray the outer side of cover with **1% Sodium hypochlorite**
  - Third cover – layered by HHKA with a new set of gloves
  - Sharps container – Seal the container and spray 1% sodium hypochlorite in the outer surface of sharps container – seal it in a cardboard box

- **Segregation as per CMC BMW 2016 rules – Colour coding**
  - Keep all the segregated wastes inside the patient room. Don’t keep it outside the ward.
  - Dispose it to hospital maintenance at regular intervals. Dedicated trolleys in separate shifts will be collected from hospital maintenance.
# Bio Medical Waste Management Rules, 2016

<table>
<thead>
<tr>
<th>Yellow Bag</th>
<th>Red Bag</th>
<th>White Translucent</th>
<th>Blue Bag in Cardboard Box</th>
<th>Yellow Bag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomical Waste</td>
<td>Contaminated Recyclable Waste</td>
<td>Disposable Plastic Sharps Container</td>
<td>Broken / Discarded Glassware &amp; Metal Implants Only</td>
<td>Expired Medicines / Cytotoxic Drugs &amp; PPE Used for Handling Them</td>
</tr>
<tr>
<td>Soiled Waste</td>
<td></td>
<td>Needles &amp; Metal Sharps Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mask, Cap, Shoe Cover, Disposable Surgical Gown</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Waste &amp; Blood Bags After Autoclaving</td>
<td></td>
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</tbody>
</table>

**Segregate Waste at Source to Make Hazard Free Health Care**

*HICC*
## CMC COVID-19 helpline numbers

<table>
<thead>
<tr>
<th>CMC COVID – 19 HELPLINE</th>
<th>CONTACT NUMBERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult casualty – COVID pager</td>
<td>05319 / 3117</td>
</tr>
<tr>
<td>Medicine dept – COVID pager</td>
<td>05640</td>
</tr>
<tr>
<td>COVID – 19 helpline</td>
<td>05966</td>
</tr>
<tr>
<td>HICC – Notification of COVID suspects</td>
<td>05090 / 2013</td>
</tr>
<tr>
<td>HICC &amp; GS office – Environmental cleaning and disinfection</td>
<td>2013/ 99449 28249</td>
</tr>
<tr>
<td>HICC &amp; Environmental Engineering – Biomedical waste mgmt</td>
<td>2013/ 99449 28249</td>
</tr>
<tr>
<td>SSHS – Staff/students queries</td>
<td>05121</td>
</tr>
<tr>
<td>Home quarantine staff/students– help line</td>
<td>99449 28249</td>
</tr>
</tbody>
</table>