Ideal PPE to be used when managing confirmed/ suspected COVID-19 positive intubated patient with ECMO
• World Health Organization guidelines:
  DROPLET precautions for routine care of COVID19 patients.
  AIRBORNE precautions for aerosol-generating procedures (e.g. intubation, extubation, bronchoscopy, and tracheostomy).
• United States CDC previously recommended using AIRBORNE precautions when managing COVID19 patients.
  CDC recent statement: surgical facemasks acceptable when N95 masks run out.
• ANZICS recommends AIRBORNE precautions be used for critically ill patients with COVID-19.
STOP

DROPLET PRECAUTIONS

EVERYONE MUST:

- Face shield / goggles / eye-visors
- Surgical mask / N95 respirator
- Isolation gown (AAMI level 1)
- Disposable gloves as indicated*
  *For example, when presence of skin lesions or contact with blood and body fluids

Acknowledgement: Peter Lai, Hong Kong

STOP

AIRBORNE PRECAUTIONS

EVERYONE MUST:

- Face shield / goggles
- N95 respirator
- Isolation gown (AAMI level 3)
- Disposable gloves
N95 Vs PAPR Vs Standard mask
## MINISTRY OF HEALTH

**SINGAPORE**

### Table 1: Guidance on PPE use during DORSCON ORANGE in different settings and clinical areas

<table>
<thead>
<tr>
<th>Settings</th>
<th>Clinical Areas</th>
<th>Recommended use of PPE</th>
<th>Frequency of PPE use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Department</td>
<td>Screening/ Nurse triage assessment</td>
<td>N95, Full PPE: N95 mask, gown, gloves, eye protection (if available)</td>
<td>Extended use up to 6 hrs for masks &amp; eye protection (if used). Single use for gown and gloves, i.e. change between patients.</td>
</tr>
<tr>
<td></td>
<td>Fever area</td>
<td>Full PPE: N95 mask, gown, gloves, eye protection (if available)</td>
<td>Extended use up to 6 hrs for masks &amp; eye protection (if used). Single use for gown and gloves, i.e. change between patients.</td>
</tr>
<tr>
<td></td>
<td>All other areas</td>
<td>Surgical mask, gown, gloves, eye protection (if available)</td>
<td>Extended use up to 6 hrs.</td>
</tr>
<tr>
<td></td>
<td>Isolation ward</td>
<td>Rooms with suspected/ confirmed cases</td>
<td>Extended use up to 6 hrs for eye protection. Single use for N95, gown, gloves.</td>
</tr>
<tr>
<td></td>
<td>Non-clinical staff (not entering isolation rooms)</td>
<td>n/a, Surgical mask, gown, gloves, eye protection (if available)</td>
<td>Extended use up to 6 hrs.</td>
</tr>
<tr>
<td></td>
<td>All other areas</td>
<td>No mask required; mask if droplet precaution needed</td>
<td>Surgical mask, gown, gloves, eye protection (if available)</td>
</tr>
<tr>
<td></td>
<td>ICU</td>
<td>Rooms with suspected/ confirmed cases</td>
<td>Extended use up to 6 hrs for mask &amp; eye protection. Single use for gown, gloves.</td>
</tr>
<tr>
<td></td>
<td>Rooms without suspected/ confirmed cases</td>
<td>As per peacetime requirement</td>
<td>Surgical mask, gown, gloves, eye protection (if available)</td>
</tr>
</tbody>
</table>

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**Hospital/ Local Health Authority guidelines**
Infection Control Practices for ECMO patients

- **Essential components**
  - ECMO centres should revisit their existing infection control guidelines
  - Ensure that all members of the ECMO team receive adequate training.
  - Personnel performing ECMO cannulation and decannulation must wear sterile attire in addition to personal protection devices.
Desirable

- ECMO centres should consider developing facility-level plans to group such patients.
- Harmonised infection-control practices in regional hospitals: standardized approach to personal protection devices.
Feasibility of remote monitoring/control during the ECMO run
Transport of COVID-19 ECMO patients
Inter hospital transport

- Eligibility criteria (specific to the current outbreak) for inter-hospital transfer.
- Rapidity of disease progression from dyspnoea to ARDS is short: recommend early transfer (e.g., after tracheal intubation) to an ECMO centre, if feasible.
- If ECMO needs to be initiated in a peripheral hospital, the ECMO team should be aware of the local resources.
- Guidance for preparing the patient should be forwarded to the local hospital to shorten turnaround time. Any rate-limiting steps should be identified early.

Intrahospital transport:

( Cathlab, CT scans, Operating Room)

- Risk-benefit profile: possibility of disease dissemination to health-care workers and the public.
- Strict continuous adherence to infection control policies with immediate disinfection of the route and transport vehicles.
Evidence for viral load and risk for infections transmission through blood and other body fluids
• COVID-19 could be transmitted via respiratory, fecal-oral, or body fluid routes.
• Double bagged, transported in a special box to the lab by hand
Acknowledgement : Dr. Somani Jyoti, ID lead COVID, NUH

Questions?