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Bracing the Emergency Department for the COVID-19 Era

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The COVID-19 pandemic in a matter of few months has wreaked havoc across the globe. However as per the WHO, the worst may not be over yet and COVID-19 is going to stay with us for a long time. The coronavirus is highly contagious, and in the current scenario containment measures in the form of lockdowns and curfew may only be useful in transiently flattening the curve and not disease elimination. The absence of an effective vaccine and/or treatment, means that morbidity and mortality associated with COVID-19 is going to increase in the foreseeable future. For the emergency physicians (EPs) working on the frontlines, the battle may have just begun. Any patient coming to emergency room (ER), with COVID-19 related symptoms or otherwise, could be a potential source for the spread of coronavirus infection in the hospital. With most of the ER's being overcrowded, the place itself will act as amplifier which could lead to a catastrophe. Ever since the beginning of this pandemic, our focus has completely shifted to only COVID-19 related symptoms which is proving detrimental for the other non-COVID emergencies. We hereby put forth certain possible solutions which may be useful for the smooth functioning of our emergency departments (EDs).

ER Floor plan & patient flow

- **Expanding the ERs**

Creating a surge capacity is the foremost necessity, which could be in the form of tents outside ED or a separate ward [1, 2]. These ward should ideally have a negative pressure ventilation or safe exhausts with high-efficiency particulate air (HEPA) filters. With admitting team apprehensive on taking the patient without a COVID-19 report, waiting time in emergency is bound to increase, which will lead to overcrowding. Patients who don't need active resuscitation, may be shifted to these areas till the time their COVID-19 status is clarified.

- **ER patient flow**

Separate corridor and lifts for movement of suspected patients should be marked in order to prevent cross-infection.

Change in policies

- **Personal protective equipment (PPE)**

At a time where there is scarcity of PPE for health care workers (HCWs) across the globe, it is important for the administration to ensure adequate PPE for all emergency healthcare workers [3]. Since ED receives all kind of undifferentiated patients with varying acuity, they are invariably exposed to various infections. One way is to conserve the use of PPE, is to shift to tele-consultation, where the admitting team takes decision remotely and EPs has complete discretion on where to admit the patient [4]. For time-sensitive emergencies, like ST-elevation myocardial infarction (STEMI), Stroke and trauma needing immediate operations, the patients should be assumed as COVID-19 positive and on call team should receive full PPE for doing the procedure. In areas, which are not directly involved in patient care reuse of masks should be advocated [5].

- **Screening tests for all patients**

The testing criteria have changed significantly over the last few months. COVID-19 is more of a community acquired illness, with majority having mild symptoms. This subgroup will land up in emergency with complains totally unrelated to COVID-19 and will end up infecting the HCWs. This makes testing every patient before they are getting admitted important. With doubtful sensitivity of the rapid antibody test, a lab which would run round the clock for reverse transcription polymerase chain reaction (RT-PCR)

for faster turnaround time for COVID-19 reports [6]. Pooled screening for low risk patients may be helpful in resource limited settings [7].

Human resource management & HCW wellbeing

- **Manpower**

All the non-essential areas of the hospital should be identified and their functioning should be restricted, with the staff being diverted to emergency. The extra pool created should be trained in basic triaging skills and administrative work so that the EPs can focus on the resuscitation and patient management. Also to ensure continuity of care, a back-up team from different clinical specialties, who are involved in acute care, should be kept standby if the emergency team has to be quarantined.

- **Rational shift timings**

Working longer shifts with complete PPE and no access to food, water and washroom facilities is like navigating into unchartered territories for the EPs [8]. Carefully planning a shorter 4 hour shifts can prevent burnout among EPs. Also if there are adequate number of HCWs, an alternating 7-day duty and 7-day off formula can be applied.

- **Mental/Emotional/Physical wellbeing**

The fear of contracting infection themselves and spreading it to their loved ones can cause mental agony to already burdened emergency healthcare worker [9]. Frequent counselling sessions, wellness programs, with adequate breaks to spend time with the family should be advocated.

Though this pandemic has risked pushing the EPs to the frontlines against the deadly virus, at the same time it provides them with a unique opportunity to stand up and be counted. This could provide this young discipline the necessary impetus and the due recognition it deserves. The goal is to prepare ourselves for the long drawn battle against this unseen enemy, and be grateful for the unique opportunity this once-in-a lifetime pandemic has to offer in testing our commitment to patient care.

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