

## ***EDITORIAL***

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# **COVID-19 Pandemic: Radiology Department Preparedness**

By the time this article will be read, a lot of the statistics and updates will be on hand. But with more than 10,000,000 confirmed cases and more than 500,000 deaths worldwide and still counting, COVID-19 is and is one of the most important issue in our life today.

On January 31, 2020, the World Health Organization declared a new coronavirus outbreak in Wuhan, China as a “Public Health Emergency of International Concern (PHEIC).” On February 13, 2020, the World Health Organization officially named the 2019-nCoV as Corona Virus Disease-2019 in Geneva, Switzerland.<sup>1</sup>

The outbreak is due to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection. Approximately 83,000 patients have been infected in China.<sup>2</sup> WHO announces COVID-19 as pandemic on 12<sup>th</sup> March 2020.<sup>3</sup>

As the disease is highly contagious and is transmitted by droplets, WHO encourages individuals to take care of their own health and protect others by:

- Washing hands frequently with water and soap or using hand-sanitizing gel;
- Maintaining social distancing by keeping a distance of 1 meter (3 feet) between yourself and anyone who is coughing or sneezing;
- Avoid touching eyes, nose and mouth;
- Following respiratory hygiene (covering your mouth and nose with your bent elbow or tissue when you cough or sneeze, then disposing of the used tissue immediately);
- Seeking medical care early if you have a fever, cough and difficulty breathing; and
- Staying informed and following advice given by your health-care provider, national and local public health authority, or your employer on how to protect yourself and others from COVID-19.<sup>4</sup>

In an acute infectious disease, the radiology department plays an essential role in the diagnosis of infected patients. However, management of COVID-19 infected patients requires protection of both the medical staff and uninfected patients. This not only protects the medical staff but also improves their clinical work.<sup>1</sup>

Safety of the radiology department and its staff in COVID-19 pandemic can be practiced by:

### **Limiting exposure to the virus –**

- Creating a COVID-19 crisis management team that will look after the department’s preparedness for COVID-19 along with central coordination between the radiology department & hospital infection control department.<sup>5</sup>
- Screening (standardized questionnaire) for COVID-19 prior to patient examinations, during scheduling, hospital entrances and at radiology front desks (for example, by using hand held temperature measuring devices)
- Rapid isolation of patients with suspicion of COVID-19 at screening and refer them to fever clinic for full screening for Covid-19.<sup>5</sup>
- Ensuring health hygiene (Hand washing & use of protective measures) upon entering the department for all as per hospital protocol.
- Develop separate urgent care sites for radiological exams of suspected and diagnosed corona virus patients.
- Maintaining social distancing within the reception & waiting area for patient and attendance (with limiting of patients attendance to one person preferably).

### **Imaging of patients by –**

- Reserve imaging for suspected coronavirus cases that will affect patient management.

- Rationing elective procedures (intervention and other scanning) during the epidemic period. Non-urgent procedures such as systematic evaluation of chronic diseases and screening procedures (e.g. mammography) should be postponed. Management of general imaging emergencies should be maintained for in- and out-patients, including the evaluation of acute worsening of chronic disease.<sup>6</sup>
- Suspected or diagnosed patient's X-ray can be done by using portable X-ray scanners at the screening or designated triage area for COVID-19 patients. This limits movement of patients and spreading of infection.<sup>7</sup>
- Dedicated and separate entry & exit route for both patient & health care givers.
- Fixing dedicated CT scanner for COVID-19 patients with negative air pressure room (if possible) otherwise deep cleaning of the scanner and room after imaging & allow for passive air exchange.
- All patient and their attendance must use surgical mask and other protective measures as per protocol under any circumstances.
- After each scan, CT & MR machine gantries, non-invasive ultrasound probes, blood pressure cuffs, mouse & keyboards at imaging & workstations should be disinfected as per instructed by the machine vendors or with soap or decontaminating agents containing low or intermediate disinfectants.<sup>7</sup>
- Using appropriate precautions for patients undergoing aerosol generating procedures.
- Health care giving personnel should take protocol based precaution using approved PPE (personal protective equipment) having fluid resistant capabilities, proper mask (N 95 grade – where applicable), latex gloves, eye protecting goggles and face mask.<sup>8</sup>
- Transparent screen can be installed between patient & ultrasonography performing physicians along with full protection with proper mask & PPE
- Providing tutorials and workshop regarding PPE usage & infection control to all staffs including CT, ultrasound & interventional technologists.
- Maintaining social distancing by allowing staff to work from home by performing online reporting and virtual meetings through internet.
- Limiting foreign travel and maintain quarantine of staffs after foreign travel.<sup>5</sup>
- Making a backup plan and schedule for suddenly ill staffs and workers of the Radiology department for ensuring smooth operation.

Under the resources available, each facility can adopt measures incorporated with the hospital or national guideline for the safety of its staffs and effective performance of the Radiology department.

Protecting the staff & maintaining operation of the department –

- The department should make staff teams working for COVID-19 and non-COVID-19 setups separately.
- ¶ Teams can be rotated ensuring proper quarantine and isolation guidelines followed by the hospital.
- All patients and attendance must use mask and protective gears as per hospital protocols during transport and imaging procedures. CDC recommends simple mask coverage during transport.<sup>8</sup>

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### **Dr. Md. Anisur Rahman Khan**

Associate Professor

Radiology & Imaging Department

Colonel Malek Medical College, Manikganj

E-mail: doc\_anis@hotmail.com

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