

Editorial



COVID-19 Screening Center: How to Balance between the Speed and Safety?

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When the H1N1 pandemic occurred in 2009, screening centers were set up in Korea as local hospitals organized temporary container offices outside the hospital buildings to screen for suspected influenza patients.

During the Middle East Respiratory Syndrome corona virus (MERS-CoV) outbreak in hospitals in 2015, the government designated a specific hospital to diagnose and preempt quarantine patients with suspected MERS and pneumonia symptoms as a MERS-safety hospital. This MERS-safety hospital also operated a screening center.

In the case of coronavirus disease 2019 (COVID-19), as it had the characteristics of an epidemic infection, the government established screening centers focused on public health centers and hospital-level medical institutions. The large number of cases in Daegu/Gyeongsangbuk-do led to a rapid influx of patients being diagnosed at the screening center. In the process of specimen collection, only a limited number of patients could be diagnosed due to the considerable time required for wearing and removing personal protective equipment and environmental sterilization. For this reason, several types of screening centers have been developed to enable rapid specimen collection.

At the screening centers, prompt screening and specimen collection are important, but the safety of medical staffs and testees is the top priority. Cross-contamination should also be minimized during the specimen collection process.

I would like to comment on the pros and cons of the various types of screening centers.

Drive-Through (DT) Screening Center

The drive-through screening center was set up in conjunction with the concept of Point of Dispensing (POD), which is a location that distributes antidotes or vaccines when a bioterrorist attack occurs.^{1,2}

The advantage of this method is that it minimizes contact between the testees and medical staffs. As the specimen collection is conducted outdoors, both the testees and medical staff

can minimize exposure to the virus, and the medical staff can allocate time for ventilation and environmental sterilization.

In order to minimize cross-contamination during the process of specimen collection, aprons and gloves should be worn in addition to personal protective equipment, and the apron and gloves should be changed for each patient.

The disadvantage is that it is difficult for medical staffs to work outdoors for long durations when the weather is very cold, hot or windy. If the medical staff responsible for collecting samples is not sufficiently trained, cross-contamination may occur while wearing the apron and gloves. Medical staffs should be assigned specimen collection only after adequate training.

Walk-Through (WT) Screening Center: Closed Booth

The DT screening center needs a large space and can only be used by people with vehicles. The WT screening center can be installed in a relatively small space and is intended for patients visiting on foot.³

In the WT screening center, fixed gloves are not changed for each testee, and these rubber gloves cannot be easily disinfected. Disposable vinyl or polyethylene gloves are also worn to prevent contamination of the fixed gloves, but they can be contaminated while wearing as well. There is no way to preserve patient safety and prevent sample contamination unless the gloves fixed to the booth are changed for every patient.

The inner surfaces of the booth should be wiped with a disposable disinfecting tissue or a piece of cloth and a disinfectant solution. After disinfection, a ventilation period of at least 30 minutes should be observed.⁴ However, most WT screening centers allow only 10–15 minutes of ventilation. In order to increase the speed of sample collection at the WT screening centers, the number of booths should be increased.

In conclusion, it is difficult to use WT screening centers safely without improving the gloves and the environmental sterilization process. These screening centers are probably dealing with patients like specimens being handled on a bench in a laboratory.

WT Screening Center: Outdoors

The closed booth WT screening center risks the possibility of cross-contamination due to fixed gloves, in addition to the ventilation issues after environmental sterilization, thus leading to the creation of an outdoor WT screening center. This kind of screening center was created in order to screen immigrants at Incheon International Airport.

This method has the advantages of both the DT and WT screening centers with its facilities for outdoor specimen collection and multiple booths.

Specimen collection booths should be installed at intervals of 5–6 m and no pedestrians should be allowed around the sampling booth as droplets can spread during the specimen collection process.

Disadvantages, like those faced with the DT screening centers, can be experienced due to external weather conditions. Gloves and aprons must be replaced for every patient.

Due to the COVID-19 pandemic, various screening centers are being set up in Korea. Regardless of the type of screening center you are trying to build, remember that patient safety is the top priority.

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