

Instruction of Walk-Through Testing Centre for Covid-19

1. Concept

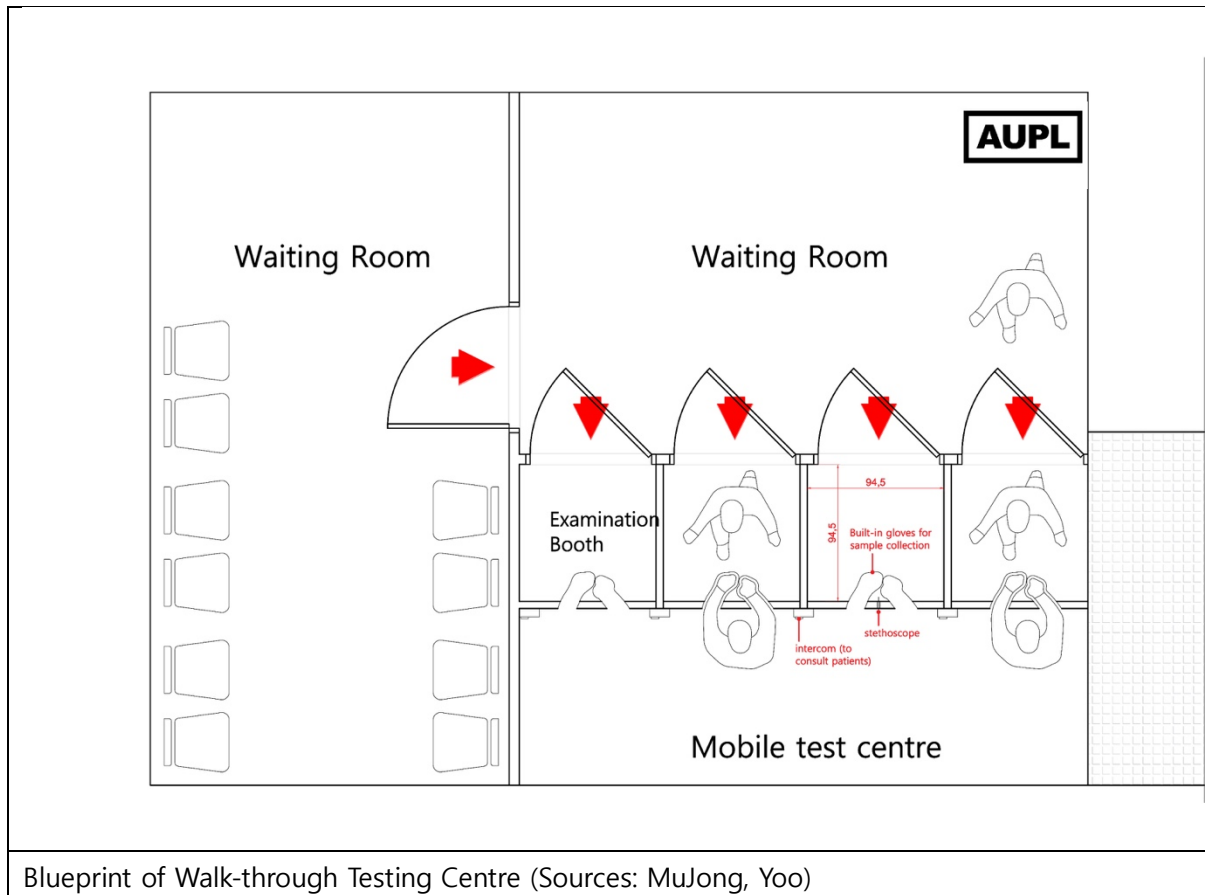
The Safe Assessment and Fast Evaluation Technical booth of Yangji Hospital (SAFETY) system, which applied the techniques of a Bio Safety Cabinet (BSC) used in labs when handling hazardous material, is a one-person screening booth that separates doctors and patients. This reduces the risk of infection and allows medical personnel to collect samples swiftly and safely. The system also significantly reduces the testing time as it takes a minute to collect a sample and between 1-2 minutes to ventilate and disinfect the booth. Existing container box or pop-up tent test centres take 30-40 minutes alone for sanitation and ventilation after one evaluation.

Walk-through test centres target the elderly and children, who do not own cars, and has the advantage of requiring little space. It also alleviates fatigue among medical personnel through reducing the time and movement required for testing and providing a sense of security by avoiding direct contact between patient and doctors.

2. Testing Procedure

After completing an e-questionnaire at the waiting area, the patient walks into the booth and gets evaluated by medical personnel via intercom (questionnaire and consultation – 5 minutes). The medical personnel will then collect samples by swabbing the patient's nose and throat using arm-length gloves built into the panel (1-2 minutes). After the specimen is collected and the patient leaves the booth, the rubber layers on the gloves are replaced, and the booth is immediately disinfected using UV lamps and such (2 minutes). This is followed by a first round of ventilation, which takes 1-2 minutes, and a second round of safety ventilation requiring another 10 minutes. The signboard is then changed from "disinfection ongoing" to "disinfection complete." Overall it takes approximately 17 minutes per patient, from testing to disinfection.

Important thing is that there are 4 booths, but not all of them are used concurrently. Out of the four, either the odd number booths (booth 1 and 3) or the even-number booths (booth 2 and 4) are used at one time. After usage, the used booths are disinfected and the other unused booths are utilized to prevent cross-infection.



3. Description of booth

The one-person booth, which is 2 meters in height and 0.5m² in size, is made of durable plastic panels that isolates it from the outside. A UV lamp is installed to disinfect the booth, while negative pressure space is maintained by a pressure device to prevent the virus from leaving the booth. When the door is closed after testing a patient, an exhaust ventilator ventilates the booth.

An intercom is setup within the booth to allow doctor-patient communication during testing, while a built-in stethoscope on the panel and a pen light is provided to allow doctors to better evaluate the patient. A separate booth that specifically caters to children is also installed.

There are three layers of gloves used in the process: the latex gloves worn by the medical personnel, gloves built into the booth, and a disposable plastic glove that covers the inbuilt gloves.

4. Personnel Required

A team of one to two doctors, two sample collectors (nurses, medical lab specialist etc.), one administrator, two disinfection staff, or a flexible arrangement could be made depending on the situation on the ground.

5. Entity responsible for installation

The booths were not set up by the government, but by a private hospital. However, the government can work together with private hospitals to set up these booths.

6. Precaution

There is the risk of cross infection through gloves, hence the gloves need to be thoroughly disinfected and sealed with a plastic layer on top.

7. Sample pictures



(Source: inews24.com, econovill.com, ajunews.com)

Test Site Questionnaire Sample

The below can be in the form of e-questionnaires or paper questionnaires

| Name | | Date of Birth | |
|--|-----------------------------------|---------------|--|
| Symptoms | Fever | Y/N | |
| | Pharyngitis | | |
| | Cough | | |
| | Shortness of breath | | |
| | Phlegm | | |
| | Chest pain | | |
| | Muscle ache | | |
| | Headache | | |
| | Runny nose | | |
| | Other Symptoms | | |
| Travel History | Daegu | | |
| | Gyeongbuk province | | |
| | Eunpyeong St. Mary's Hospital | | |
| | Area visited by confirmed patient | | |
| | Others | | |
| | Overseas | | |
| Pre-existing conditions | Diabetes | | |
| | Chronic Kidney Disease | | |
| | Hypertension | | |
| | Organ Transplant | | |
| | Chronic lung disease | | |
| | Cardiac disease | | |
| | Others | | |
| Medication consumed within past 48 hours | Fever medication | | |
| | Antibiotics | | |
| | Anti-inflammatory meds | | |

(Sources: Ewha University Seoul Hospital Covid-19 designated clinic questionnaire)

Research contributors

1. **SeungCheol, Ohk (seungcheol.ohk@sciencespo.fr) – Policy Director**
 - Oxford university master of public policy, SciencesPo master of public affairs
2. **MuJong, Yoo (merci.yoomong@gmail.com) – Graphic & Architectural Director**
 - Ecole Spéciale d'Architecture Master Architecture, Université Grenoble Alpes Master Urbanisme
3. **SangCheon, Park (ddachun02@gmail.com)**
 - Seoul National University, Master of Urban environment
4. **Eunsung, Cho (am.tiffanycho@gmail.com)**
 - Michigan State University, bachelor of Architecture
5. **Bae Dae Yeon (Baedaeyeon@gmail.com)**
 - National University of Singapore, bachelor of politics
6. **Matthias Gaucher Petitdemange (Matthias.gaucher.petitdemange@gmail.com)**
 - Institut Catholique d'Arts et Métiers, Master of Mechanical Engineering

If you have any question related to this report, please contact (seungcheol.ohk@sciencespo.fr)

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