



A positive pressure testing booth for sample collection

Design files for a portable testing booth that facilitates safe practice of sample collection procedures on patients with infectious pathogens.

Technology No. 2020-359



Applications

- Diagnostic testing sites at hospitals and drive-up testing locations
- Booths for workers (e.g. ticket takers) in areas of high air pollution.

Overview

Researchers at the University of Minnesota have designed a portable isolation system for facilitating safe practice of sample collection procedures on patients with infectious diseases such as COVID-19. This testing booth is made of polycarbonate, with glove ports, operated under positive pressure with a HEPA filter. The HEPA-filtered positive pressure environment keeps the healthcare worker safe from infectious aerosol droplets inside the booth while maintaining access to a patient outside. Fitted with glove ports, this booth allows healthcare workers to perform multiple sample collection procedures, while the exterior of the booth can be sanitized quickly using typical procedures between patients. In addition, the material and design of this booth allows for easy manufacturing and deployment, making it a realistic

approach to rapidly build life-saving protective barrier enclosures for healthcare providers.

Key Benefits & Differentiators

- Reduces exposure of infectious aerosols and droplets from patients to care providers
- Facilitates safe practice of sample collection - nasal and oral swabs, nasal wash, etc.
- Easy to manufacture with commercially available parts
- Portable and easy deployment in outdoor locations
- Increases throughput and may significantly reduce the usage of PPEs

Phase of Development

Booth tested in an operational environment. Several booths are [in use](#) at healthcare services for testing COVID-19 patients. Design files available for download.

Researchers

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[External Link](https://cse.umn.edu) (cse.umn.edu)

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