

Clinical Simulation Involving

**Portable Airway Management Systems Chamber.
"PAMS Chamber" (patent pending)**

Clinical simulations with the use of "Advanced Life Support Man" (ALSMAN), which is a highly sophisticated mannequin, was used to carry out clinical studies associated with PAMS Chamber. The design benefits of PAMS Chamber offers high levels of protection from exposure of health workers to Covid-19 aerosols. The portable negative pressure chamber has proven to be versatile and portable. In addition, the Rapid Air Exchange functionality of the Chamber prevents the Covid-19 aerosols contamination outside the capsule.

The trials were used to successfully demonstrate the chamber as follows:

- a. Assembly and application of PAMS Chamber to the mannequin
- b. Various transfers to and from ambulance stretcher, emergency room patient trolley, operating table, hospital and intensive care beds
- c. The design of PAMS Chamber permits clinicians and other health workers to perform procedures without impediment reducing the risks of exposure to infectious Covid-19 aerosols
- d. The high level of air extraction and air entrainment with the use of HME HEPA filters prevent high levels of CO₂ build up when breathing spontaneously.
- e. The high level of air exchange via HME HEPA filters maintains ambient temperature in the Chamber.

Procedures carried out and shown to be successful:

- a. High flow oxygenation via nasal prongs of up to 60L/min
- b. Adult tracheal intubation with the use of a McGrath laryngoscope for insertion of an 8mm endotracheal tube
- c. "Rapid Sequence Induction" with the use of a McGrath laryngoscope with a Bougie and a size 8 endotracheal tube
- d. Removal of the endotracheal tube followed by the insertion of the 2nd generation laryngeal mask
- e. Nasal fiberoptic intubation with the use of size 6mm nasal tube
- f. Exposure of the anterior neck and a cricothyrotomy with a size 5.5mm ETT using "scalpel bougie technique"

All of the above simulations were successfully performed without complications.

All the necessary equipment for the procedures were procured from the inside of the capsule.

Finally, the removal of PAMS Chamber from "ALSMAN" with the complete closure of the face opening making it a sealed capsule.

Note; due the requirements in flexibility of the chamber it cannot produce a 100% seal while we believe it's a very good seal the chamber requires constant suction to create a negative pressure environment.

Acknowledgements:**Clinical Trials Participants:**

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