Apple Siri as communication conduit during COVID-19: between inside and outside the OR

It is essential for healthcare workers (HCWs) to become innovative in identifying means to reduce exposure to suspected or confirmed COVID-19 patients who require intervention whether inside and outside the operating room (OR). Prior to entering the theatre, OR staff are required to remove personal items (PI) including phones, watches, rings, hospital ID before donning full personal protective equipment (PPE).[1] Though the role of PI is yet to be defined, it can be considered an unintentional source of take-home viral transmission.

Improved communication between staff located inside and outside the theatre will minimise unnecessary traffic, door opening and number of individuals exposed.[2] Furthermore, it will reduce PPE consumption and disruption of the pressure gradient in negative pressure rooms.[2 3] Communication through PPE can be challenging and the use of smartphones requires phone handling including personal identification and typing, a risky manoeuvre, given disinfecting the device has not been studied. Moreover, landline phones are not easily connected to outside runners and helpers (figure 1). Glass hatches are rarely available, and may not provide good communication.

We describe effective communication using the wireless Apple Siri protocol in simulation training. In the donning area, the anaesthesiologist wears a single in-ear headphone (Apple Airpods Pro) (figure 1A) while the iPhone is left outside the theatre and involved staff wear appropriate PPE.[1] During the training session, the anaesthesiologist uses Apple Siri to communicate with the iPhone to call the outside runner (figure 1B and 1C), or other physicians in different stations on their mobile devices. Incoming calls are easily received by Airpods ear-phone if the auto-answering mode is set to activate (figure 1D). Free-hand wireless communication is a superior and independent method to communicate with outside helpers and runners. It facilitates delivery of needed equipment, blood products, drugs and specimen; call for help; and sign out to receiving team inside the hospital. Movement of OR personnel has a statistically significant correlation with the microbial load in the OR.[3 4] We have used this protocol successfully

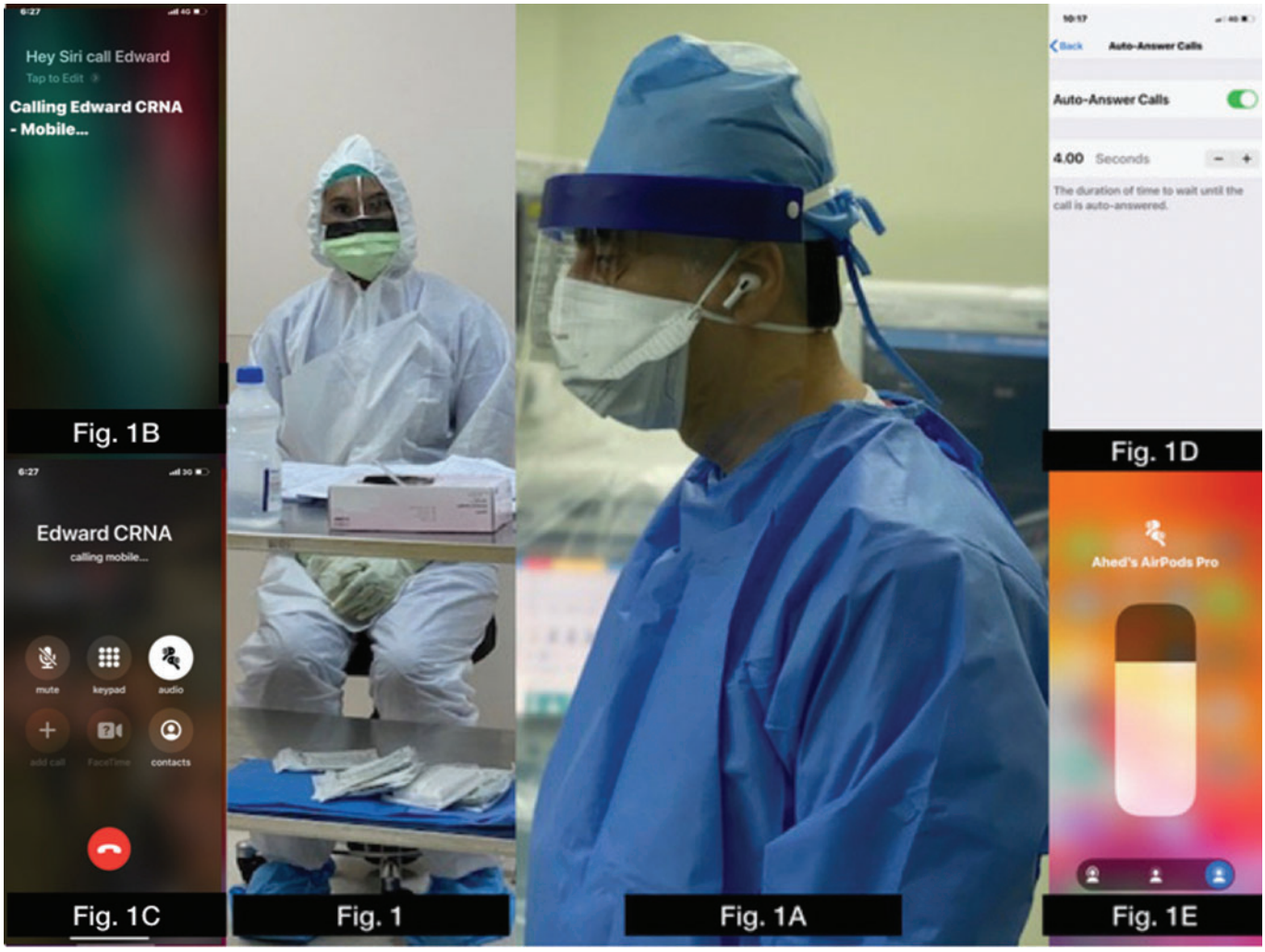

Figure 1 The outsider runner. (A) (Simulated): The left in-ear phone (Aipods pro) under the shield of the anaesthesia provider (Author A.Z). (B) Communication with the smart iPhone using Apple Siri. (C) Apple Siri calling the certified registered nurse of anaesthesia. (D) The activated Auto-Answer calls. (E) The activation of transparency mode (in Blue, Author A.Z's name).

in suspected or confirmed COVID-19 patients undergoing emergency surgery or procedures when communication was difficult with outside helpers.

The adoption of smart technology has improved sharing information, delivering proficient care during the COVID-19 pandemic and minimised the exposure risk to HCWs. Indeed, the utilisation of smartphone-based technology and applications to streamline patient care has been used successfully in emergency department, neurosurgical referral service and orthopaedic surgery to improve the team communication efficiency.[5]

Potentially, ear phones could reduce hearing ability inside the OR, but the use of a single ear piece set up to a transparency mode will provide balance between inside and outside voices, a new feature of the Airpods Pro (figure 1E). A strong network signal must cover the entire OR area.

In conclusion, free-hand wireless communication by HCWs dressed in full PPE can facilitate communication, improve response time across the OR during surgery on COVID-19 patients and reduce exposure risk.

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