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In-Situ Inter-professional Simulation: Resuscitating the Acutely Deteriorating Patient with a Deadly Airborne Disease.

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Background
Resuscitating the acutely deteriorating patient with a deadly airborne disease poses a significant challenge to the healthcare team in delivering an effective resuscitation without compromising their safety. Although there are policies in place for the proper use of personal protective equipment (PPE) and Powered Air Purifying Respirator (PAPR), healthcare staff are unsure of how best to perform an effective resuscitation without compromising their own safety.

Objective
To determine the challenges faced by the healthcare team in delivering effective resuscitation of the acutely deteriorating patient with airborne disease without compromising the safety of healthcare staff. Description of the ProjectA prospective study involving the use of repeated in-situ simulations was employed over a period of 1 year. The scenario involved a simulated patient with a deadly airborne disease in the isolation ward who developed an acute myocardial infarction with ventricular fibrillation. The primary care team and the medical emergency team were activated as per current hospital practice and the challenges faced by the managing teams were observed and recorded by six faculty from nursing, respiratory therapist, doctors and simulation staff.

Description of the Video
The video will demonstrate the workflow and challenges faced by the resuscitating teams

Results

Workflow: None of the ground staff were familiar with the workflow of running a protected code blue. The optimum number of members for the resuscitating team was also not known.

Donning of PPE and PAPR:Nurses and respiratory therapist were competent in donning PPE and PAPR. Doctors were unsure of how to don the PAPR properly and required on-the-spot guidance from nursing staff.

Protected Code Blue: There were physical constraints of having more than 5 persons in the

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isolation room with their PAPR. Adjustments to the bed positioning and emergency cart had to be implemented for effective resuscitation to take place. Team members were unable to communicate effectively with one another with their PAPR suit on. There was poor handover between the 2 resuscitating teams. There was a delay in delivering regular defibrillations due to different training practices between the doctors and nurses.

Doffing of PPE and PAPR: Nurses, respiratory therapist and doctors scored poorly on doffing of their PPE and PAPR post resuscitation. They often contaminated themselves and their team members without realizing it.

Impact

In-situ simulation revealed multiple deficiencies and gaps in providing effective resuscitation to such patients without compromising the safety of our healthcare staff. A hospital policy on workflow as well as regular training of ground staff has been developed to address these gaps.