

Critically ill adult with Corona infection

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Simulation case including: medical emergency dispatchers, ambulance, volunteer standardized patient, and Critically Ill Medical team.

Background

Team simulation involving for critically ill adult patients has taken place in situ every other week at SUS since 2019. In connection with the Covid-19 pandemic, the simulations have been adapted to Covid-19 scenarios, and carried out in one of the intended Covid-19 isolation reception rooms.

The emergency response manager at SUS commissioned the first round, so that there were two run-throughs during the first week.

A resident doctor who was collected at home in an ambulance portrayed the patient.

Learnings goals

- 1) Use the correct protective equipment in a «receiving a critically ill adult» setting
- 2) Identify improvement measures
- 3) Effective communication between all actors in patient flow
- 4) ABCDE evaluation and effective examination and treatment of the suspected Corona-infected patient

Description

Next of kin phones emergency services.

Patient (age and gender dependent on stand-in) arrive back from holiday in northern Italy three days ago. Shivering, much coughing, breathing more difficult. No Corona test taken previously. Worsening overnight. Apathy, tiredness, difficulty breathing. Already has asthma and type 2 diabetes.

Ambulance personnel identify: A: free airway; B: breathing 42/min, SpO2 84%; C: pulse 120, BT 97/58, clammy skin; D: conscious with eyes shut; E: tp 38,9.

(with O2/inhalations/ CPAP: O2 fails to rise above 90%)

On arrival at isolation ward

Findings: A: free airway; B: Breathing: 41, saturation 86% (with O2), extreme difficulty breathing, slight cyanosis; C:pulse 132, BT: 95/57, clammy, bilateral arterial pulses present. D: lying with eyes closed. Semi-conscious, AVPU - V. Temp: 39

Chest X-ray: multiple bilateral patches

Blood gas test: ph: 7,28 pCO2: 7,1 po2: 7,6 saO2: 84% Lact: 5,1 BE -6 HCO3 24, BE -6,1, HCO3 24

Learning points from simulation

EQUIPMENT/LOGISTICS:

- X-ray had no means of sterilising their equipment after use
- One lead apron is sufficient in the isolation room. The anaesthetist should put it on before their biological protection suit
- Trolley with protective equipment needed outside sluice room. Sluice room is too small for everyone to put

on gear there

- The equipment trolley in the isolation and sluice rooms needs upgrading. Deficiencies identified (intensive care and A&E nurse take responsibility)
- A&E nurse must bring clean bed up to isolation room to free up ambulance stretcher. NB: Stretcher must be disinfected in sluice room before returning through ward etc to ambulance hall.

TEAM:

- Two intensive care nurses are necessary in the team. One in sluice room (clean), one in the isolation-treatment room
- When the "clean" intensive care nurse was away to analyse the arterial blood gas, no assistants were available for the team in the sluice
- An isolation ward nurse should be included in the CIP/Covid-19 team. One who is familiar with the department and can find equipment quickly.
- Someone needs to go receive the ambulance team downstairs and guide them up
- Personnel should write their function with a marker pen on their protective suit to enhance correct communication

TEAM COMMUNICATION:

- Communication is a challenge when everyone is wearing masks
- Information was therefore lost
- Jr. Resident should document measurements on the whiteboard
- Speak audibly and a focus on closed loop especially when wearing masks
- Loudspeaker system in room can be used if assistance is required
- One person must be tasked with responsibility for virus tests so that these are delivered in the correct way
- In the event of aerosol generating procedures, the sluice room should be locked. This should be tested next time.

Infection handling: (notes from hygiene nurse)

- It's rewarding to participate in training, I think it is useful
- An extra trolley needed outside the isolation room/in the corridor for putting on protective gear
- Hang up poster with airborne infection information and communicate clearly that there is air contamination risk before commencing
- Ensure proper hand hygiene (was neglected when putting on protective gear)
- Biological waste bin needed in sluice room
- Appropriate disinfection gel and wipes needed in sluice room (for disinfection was of X-ray equipment)
- A lot of movement in and out of sluice room. This will improve on the next simulation when improvement aspects from this debriefing are addressed
- A lot happens at once with a critical patient
- In an airborne infection situation, single-use protective suits, P3 masks and goggles are standard for everyone in the room. Difficult to simulate an airborne infection situation if protective gear can't be used (and that's the way it has to be).