

BEST PRACTICES

Recommendations of Italian Critical Care Nurses about the Coronavirus emergency

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Corrispondenza per richieste:

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The Italian Critical Area nurses represented by Aniarti are working hard at the moment. We believe that it is important to share, our first impressions and experiences on what we learned in the first days of the COVID-19 epidemic.

We have seen a very high number of hospitalizations in intensive care, almost entirely due to severe hypoxemic respiratory failure

that rapidly worsens in ARDS and requires mechanical ventilation and pronation at least in the first 48 hours. The measures put in place of isolation and some changes in the usual habits and conventions of social and community life have the aim to try to contain the rapid spread we are observing throughout Europe and the world. These actions, although apparently drastic, are necessary and it is not time to underestimate what is happening.

Consider that about 15% of those infected are health workers, and this puts us in a position to be the category most at risk.

About 10% of those infected are admitted to an intensive or sub-intensive care unit. For this reason it is necessary to adopt adequate safety measures and contain the risk of virus spread during all phases of treatment and care of people in critical conditions.

Given the rapidity of the evolution of

the epidemic (which could soon become a pandemic), pending confirmation from clinical research, some aspects that have been put in place, and others that deserve to be considered for the most prudent and judicious management are as follows:

- Organization (or strengthening) of a national ICU Network
- Definition and verification of pandemic emergency plans (with verification of organ care and support devices, personal protective equipment and appropriate training as extensive as possible)
- Establishment of appropriate Rapid Triage protocols on the territory and in front of Emergency Departments to identify patients with suspicion of COVID-19 at an early stage and insert them in dedicated logistical and clinical pathways which are separate from the other clinical conditions of non infected users
- Accurate and extensive training with appropriate simulations on dressing and undressing procedures with Personal Protective Equipment (PPE)
- Identification of the hospitals that should receive COVID-19 patients, or strict separation of the treatment areas (of any intensity level) dedicated to people with COVID-19, and their transit and transport routes, including areas for radiological diagnostics
- Redefine the number of nurses with care skills in ICU in consideration of a working model with a patient - nurse ratio 1:1 and where possible 2:1 for procedures with a high workload. The workload is greatly increased due to the physiological slowdown that wearing PPE involves, in addition to the need to increase attention levels to avoid possible contamination and dispersion of SARS-Cov-2 viruses. Organize shifts so that a nurse or an Health Carer Assistant (HCA) always remains "clean" outside the area where PPE is to be used and provide for the possibility of having free nurses on shift who can support or lighten the workload.
- Increase of beds in intensive and sub-intensive care unit, with priority recruitment of already experienced nurses, as the need to care for a large number of patients can suddenly arise and evolve very quickly so as not to allow training and integration of newly hired or inexperienced in intensive care.
- Expect increased workloads due to high pronation needs, and PPE dressing and undressing procedures
- Need to aggregate care interventions and anticipate any preventable/predictable situations to reduce the patient's bedside time and allow adequate interval times without PPE
- Need to schedule shifts on COVID - 19 patients such that nurses do not wear PPE for more than 3 hours (4 hours maximum), and take appropriate measures to prevent pressure - related injuries related to PPE (protective hydrocolloids on contact points of filter masks)
- Predict the need to extend shifts due to workload, but also cases of possible increase in illness among care staff
- Strengthening of support operators for logistical needs linked to the decontamination and reconditioning of multi-use care and assistance equipment
- Meticulous monitoring of daily and terminal environmental hygiene procedures, with particular attention to common and repeated contact surfaces such as keyboards, PCs, telephones, switches, door handles, and personal mobile phones
- Need to consider the possibility of psychological support for intensive therapy teams facing up this situation due to the increase of work-related stress, the possibility of burn-out in relation to the lengthening of "health emergency" times, the feeling of isolation and anxiety of the operators (also related to the health of their meaningful)
- Particular attention should be paid to refreshing the internal safety rules aimed at limiting the dispersion of contaminants containing SARS-Cov2 viruses, particularly for procedures at risk:
 - Tracheal intubation
 - Tracheostomy bedside
 - Tracheal suction (closed circuit)
 - Limit as much as possible the oxygenation and ventilation methods that can nebulize particles
 - Aerosol therapy (privilege the installation of the systems directly at the time of intubation of the patient)
 - Avoid accidental disconnection of the ventilator circuit
 - Use the "expiratory pause block" functions combined with the closure of the endotracheal tube in case of programmed opening of the circuit
- Avoid the use of high diffusion droplet systems (High Flow Nasal Cannula, Non-invasive ventilation with face mask, CPAP by Boussignac system)
- Privilege the use of the helmet as an interface for oxygen therapy or CPAP, placing a HEPA (high efficiency particulate air) filter on the expiratory line
- Place a HEPA filter on the expiratory valves of the ventilators, on the side where the exhaled gas escapes into the atmosphere.
- Place a HEPA filter on manual ventilation devices
- Prefer the use of single-use fibroscopes
- In case of MET activation for CPR maneuvers, inside hospitals, operators must consider the unknown patient as potentially infected, and use the PPE provided for Covid patients (equip emergency backpacks with complete dressing kits for at least 2 operators)
- Immediate notification of any disruption of barriers caused by individual PPE or accidental exposure conditions
- Prudential and temporary limitation of access to patient visits in all areas of the hospital, with absolute prohibition of entry to people with respiratory symptoms. Provide alternative strategies of communication with the patients' families (Skype, video calls, email, etc.)
- The nurse, towards the awake patient, maintains himself as an interface with the outside world with respect to the condition of isolation. This condition is not new, especially to those who assist patients in protective isolation by immunosuppression (eg, Transplantation, malignant haematological pathologies in bone marrow aplasia ...), and the measures of therapeutic relationship are presumably maintained in a way comparable to those mentioned above

It is essential to keep in mind that the rapid evolution of infection clusters can set up an emergency situation in a very short time, without any time to implement appropriate containment measures. This is why anticipation and planning becomes the key to deal with this epidemic.