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## Occupational team safety in ECT practice during the COVID-19 pandemic



### Segurança ocupacional da equipe na prática de ECT durante a pandemia de COVID-19

Dear Editor,

Electroconvulsive Therapy (ECT) is a procedure indicated for the treatment of several neuropsychiatric conditions, including severe and life-threatening disorders and situations such as depression with risks of suicide or malnutrition, catatonia, refractory schizophrenia, mania with severe psychomotor agitation and status epilepticus.<sup>1</sup> Although this is a life-saving treatment, maintaining the ECT services during the COVID-19 pandemic has become a challenge due to the intrinsic risks of anesthetics and airway management during the procedure.<sup>2</sup> Anesthesia for ECT consists in the use of a short-acting hypnotic agent (propofol, etomidate, or thiopental) followed by a neuromuscular blocker, the most used is succinylcholine due to its rapid onset and offset of action. Oxygen supply is provided through a noninvasive bag and mask ventilation.<sup>3</sup> This is a critical point in the procedure because noninvasive ventilation poses a higher risk of contamination due to aerosol release from contaminated patients. To address this challenge, some services are using

a Laryngeal Mask (LMA) for ventilation, others are trying not to ventilate patients during the procedure, using pre-oxygenation via a non-rebreather mask. The latter can be dangerous because the patient's oxygen saturation may drop to a level that requires some kind of ventilatory support. Although the procedure is fast enough to allow the use of LMA, the risk of contamination due to the aerosol spray does not decrease significantly; in addition, LMA can induce the patient to cough.<sup>4</sup>

In our ECT service, we modified the noninvasive ventilation technique (Fig. 1) by installing a HEPA (High-Efficiency Particulate Arrestance) filter between the bag and the mask to retain the viral particles. Additionally, a sterile plastic bag surrounding the mask and the patient's face is attached to the ventilatory system. This device protects against the aerosol that may escape from between the mouth and the mask and spread viral particles around the ECT room. The edge of the plastic bag can be fixed with clamps. All ventilatory material is replaced among patients. The use of low O<sub>2</sub> flow during ventilation is also a recommended measure. The psychiatrist, anesthesiologist, and nurses should all use personal protective equipment such as a N95 mask, face shield, gloves, and an impermeable gown.

We believe this is a safe and effective way to reduce the risk of contamination from COVID-19 during the ECT procedure.



**Figure 1** Technique to reduce the risk of contamination from COVID-19 during the ECT procedure.

### Conflicts of interest

The authors declare no conflicts of interest.

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## COVID-19 pandemic: demand creates its own supply in a residency program



### Pandemia COVID-19: A demanda cria sua própria oferta em programa de residência

*Dear Editor,*

The pandemic of COVID-19 tested both our vulnerability and resilience in all aspects of life including education. With the announcement of the COVID-19 pandemic, most of the educational programs were adversely affected including medical residency programs in teaching hospitals in many countries. Our anesthesiology residency program in Kurdistan University of Medical Science was not an exception. With the announcement of the appearance of the first cases of COVID-19 in our country we were so shocked that we stopped all teaching activities such as morning reports, journal clubs, weekly rounds, and noon conferences. Nevertheless, recovery is the essence of our specialty. Very soon we, as an academic department, recovered from the initial shock and restored our educational programs while considering safety measures.

We were already familiar with the concept and procedures of virtual and online learning. The new COVID-19 crisis made us use all means at hand to continue our teaching and learning. Let us borrow the phrase “demand creates its own supply” from Keynes (Greenlaw & Shapiro,<sup>1</sup> 2017) to explain the situation. We desperately needed to continue our trainings for our residents and at the same time keep all of us safe by avoiding gatherings and maintaining physical distance. We reviewed our programs and decided that one of the most valuable and indispensable programs was our morning report.

After consulting with our medical educationalist colleague in the university’s educational development center we formed an interactive group on WhatsApp and invited all residents, attendings, interns and residency alumni of the department. We chose WhatsApp because of its popularity and availability in Iran and its ability to create groups for discussions and text, voice, and video communications.

The night shift residents were instructed and obliged to upload their patients’ reports to the attendings in details in the group. They were also asked to upload one or two patients’ cases in the virtual group for virtual morning report. Confidentiality and the rights of patients to remain unidentifiable was emphasized and maintained. The residents uploaded history, physicals, Para clinic findings,

preoperative and post-operative measures, and patient management activities the night before the morning report.

All of the members of the virtual group were invited to attend the online morning report at 7:45 am. The night shift resident who was in charge explained the case and managed the discussions using texts, voice, and video messages.

The residents were obliged to present their cases based on evidence-based medicine principles especially with providing information on Patient, Intervention, Comparator, Outcome (PICO), and the procedure of searching for evidence (Pronovost et al.,<sup>2</sup> 2001). We urged residents to clarify their PICO as follows:

P – To briefly introduce the patients including their Physiopathology, previous and current history, preferences, and socioeconomic status while maintaining confidentiality.

I – To explain what Interventions they have considered and why.

C – To clarify what alternative they Compare their chosen intervention to.

O – To describe what Outcomes they hope to achieve.

All of these aspects provoked questions and discussions.

We had already trained our residents on EBM and they are able to explain how they converted the needs for information into a searchable question and where they found the best available evidence.

However, any educational program must be evaluated to determine usefulness and aptitude. This is true with any method of conducting morning reports. We evaluated this program using Kirkpatrick’s model for learning evaluation (Kirkpatrick & Kirkpatrick,<sup>3</sup> 2006). This model examines and evaluates the results of educational programs in four successive levels of reaction, learning, behavior, and results. Evaluation starts with level one, after which should continue in order through levels two, three, and four according to the aims and objectives of the evaluators. We evaluated our program at the first two levels to understand if the participants enjoyed their participations and if they found the material in the program useful in terms of learning.

All participants including residents, interns, alumni, and attendings expressed their satisfaction with the content and the procedure using the WhatsApp group throughout the day after each session. In addition, in our informal discussions with residents they maintained that they had learnt from the virtual morning reports and they found it as useful as face to face morning reports.

Creating and managing a strong alumni network is essential to a department’s success. We invited our alumni to join our virtual morning reports in their convenience. Their participation and their comments made a wider learning community and enriched our residents’ learning experi-