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## COMMUNICATING WHILE RECEIVING MECHANICAL VENTILATION: TEXTING WITH A SMARTPHONE

By Joseph Shiber, MD, Ayesha Thomas, MD, and Ashley Northcutt, MD

**Abstract** Two young adults with severe facial injuries were receiving care in the trauma/surgical intensive care unit at a tertiary care, level I trauma center in the southeastern United States. Both patients were able to communicate by texting on their cellphones to family members, friends, and caregivers in the intensive care unit. Patients who are awake and already have experience texting with a smartphone or other electronic handheld device may be able to communicate well while receiving mechanical ventilation. (*American Journal of Critical Care*. 2016;25:e38-e39)

**W**e present a new concept for patients who are awake and alert or only lightly sedated to communicate while receiving mechanical ventilation. Recently we cared for 2 young adults who had been injured (gunshot to the face and motorcycle collision with severe facial injuries) and required mechanical ventilation. Both patients were receiving opiate analgesics for pain control but were awake and very interactive. With their smartphones, they were able not only to text family members and friends but also to write questions or statements on the screen of their own phone to communicate with members of the care team in the intensive care unit (ICU).

Case 1: The patient awoke from anesthesia after operative fixation of facial injuries. Although

his hands were restrained by his side, he was able to text quickly and accurately without being able to see the screen. As he asked questions of the team ("When will the breathing tube come out?" "When can I eat?"), we gave an answer and then the next question immediately appeared on his screen. It was a very effective means of communicating and was clearly second nature to the patient.

Case 2: We suggested that the patient's parents bring his phone into the hospital, and he was then able to communicate with ICU staff as well as his visitors. He continued receiving mechanical ventilation for several days while waiting for the facial swelling to resolve to complete the operative fixation of his extensive unstable facial fractures. His parents also brought him a tablet computer with which he appeared to be communicating with his friends and girlfriend.

The inability to verbally communicate with patients receiving mechanical ventilation is not only distressing to the patients but also to the ICU staff.<sup>1-4</sup> In addition to the nonvocal communication methods (mouthing words, gestures, head nods, facial expressions), there are verbal (using written

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language) but still nonvocal (not speaking) methods that use forms of writing such as pen and paper, dry-erase boards, or pointing to prewritten messages.<sup>2,5</sup> These traditional methods are slow and can be cumbersome as they may require cleaning of the chalkboard or dry-erase board, or new paper for ongoing writing; strength and coordination are also required to use these techniques. The idea of using a computer to assist in communication with patients receiving mechanical ventilation is 30 years old.<sup>6</sup> Contemporary handheld tablet computers and smartphones have advanced significantly during this period and many more patients have a baseline familiarity with devices and applications.<sup>7</sup> In addition to communicating with family and staff in the patient's room, it may be possible to text or e-mail the ICU desk if the call light/button were not in reach; this application might enhance patient safety as well as well-being.

Using their own electronic devices, these 2 young adults were able to communicate very effectively, but this solution may not be applicable to all patients. Difficulties would be expected if patients were not familiar with texting or could not use their hands because of injuries or weakness. A patient may be quite adept with his or her own device but not be able to use a different electronic device if supplied by the hospital. If an ICU kept a device for patients to use, concerns for decontamination between patients could deter its use. Additionally, issues with loss, theft, or damage from dropping the device could arise. Some facilities have policies against using cell phones

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in the ICU because of potential interference with programmable infusion pumps and telemetry monitors.

With the widespread use of smartphones and tablet computers for texting, especially among young adults, we would suggest asking the patient or the patient's family members if the patient often uses an electronic device. If so, then allow such patients to have their electronic device with them as they awaken while receiving mechanical ventilation in order to improve their communication. Although we have now attempted to identify good candidates to use this method of communication, further investigation will be necessary to determine best practices for patient-centered personal communication in the ICU.

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