Effective surgical communication during the COVID-19 pandemic: sign language

Editor

Surgical procedures put healthcare workers at a high risk of COVID-19 infection. Thus, it has become more important to emphasize precautions, including the use of personal protective equipment (PPE). The use of PPE has been closely scrutinised during the COVID-19 pandemic\(^1\). However, we have noticed that some forms of PPE may impair and compromise the transfer of information between surgical staff in the operating room (OR).

Effective communication between the surgical team is essential to avoid medical errors associated with poor information transfer and to ensure the highest quality patient care\(^2\). Any type of impairment in this process during surgical procedures may affect patient outcomes through increased complications, increases in the length of hospital stay, and increased litigation costs\(^3\).

The use of sign language in clinical settings has been previously addressed in the literature\(^4\) mainly as a proposal to manage increased noise levels in the OR. Sign language has also been suggested as an alternative to handle language differences in surgical team members of varied nationalities, as well as to improve action response within a procedure\(^5\).

To reduce verbal communication that may be limited by inefficient voice transmission, we propose a surgery-based sign language with a vocabulary consisting of technical information that is easy to learn and replicate and allows fluent communication in the OR. In our experience in the OR, hand signals complement verbal commands that are not clear enough on their own, creating a more intuitive response.

The language consists of fourteen hand signals that include the most common tasks used in the majority of surgical procedures (Table 1; Video 1; Figure 1). To maintain a simple language, each hand sign replicates the exact movement, hand configuration, and palm grip of the instrument that is being requested\(^6\).

Table 1 Description of Hand Sign Commands

| Command                  | Description                                                                 |
|--------------------------|-----------------------------------------------------------------------------|
| 1. Requesting scalpel    | Hand-slide in a downward motion with the tip of the thumb, index, and middle fingers together. |
| 2. Requesting retractor  | Mid-pronated hand-slide in a downward motion with an immobile thumb and index finger in a “C” position. |
| 3. Requesting Mayo scissors | Index and middle finger point to patient feet in the form of scissors.        |
| 4. Requesting Metzenbaum scissors | Index and middle finger point to the patient’s head in the form of scissors. |
| 5. Requesting Dissecting forceps | Oppositional movement between thumb and index finger with the three remaining fingers in full extension. |
| 6. Requesting Kelly forceps | Oppositional movement between thumb and index finger with the three remaining fingers in line with the index. |
| 7. Requesting Lahey lower | Hook form with index finger with the rest of the fingers fully flexed.        |
| 8. Requesting Lahey lower with silk | Flexion at the metacarpophalangeal joint with thumb in parallel alignment. |
| 9. Requesting needle driver | Surgeon signals for suture with the needle by rotating wrist with closed hand. |
| 10. Requesting Silk      | With the tip of the thumb and index fingers touching in each hand in pronation, simulate a movement of elongation. |
| 11. Requesting Gauze     | Extension of the right hand in a prone position (with the palm).              |
| 12. Requesting Gauze count | Count using the fingers with the left hand in extension.                     |
| 13. Time out             | Forming a “T” shape with both hands.                                        |

The primary goal of effective communication includes the clear and objective transmission of verbal and nonverbal instructions. Wider implementation of this sign language needs to take into account two things: first, the depth of the vocabulary, and second, the selection of the individuals within the surgical team required to learn the language. An extensive sign language that incorporates more hand signals would be beneficial in providing the surgical team a more comprehensive method that would reduce the need for spoken language to the minimum. However, we recognize that the time required for learning the sign language must be taken into consideration. The sign language can be further complemented to include more commands, although we recommend a restriction on the number of participants based on their role in the surgical team if this option is explored.

The COVID-19 pandemic represents a great challenge to our perception of healthcare provider self-care and the standard of patient safety. In the OR, one of the vital tools we have for patient care is effective communication. The objective of the verbal and nonverbal message is to convey meaningful information. The surgical process is particularly vulnerable to ineffective and negative communication events due to the presence of PPE. The use of hand signals to reinforce verbal commands during this process is a powerful strategy to complement the quality of care provided to the surgical patient, even in the era of COVID-19.

Conflict of Interest

The authors certify that they have no involvement in any organization with any financial or non-financial interest, in the subject matter discussed in the manuscript.

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Supporting information
Additional supporting information can be found online in the Supporting Information section at the end of the article.