

# Leadership proficiency in surgery: lessons from the COVID-19 pandemic

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## SUMMARY

The coronavirus disease 2019 (COVID-19) pandemic has accentuated the importance of leadership training for health care professionals, particularly surgeons. Surgeons are expected to lead and thrive in multidisciplinary teams. There is, however, a critical gap in teaching residents about fundamental leadership principles, such as developing productive and vision-driven teams, conflict resolution and emotional intelligence. We discuss the merits of leadership training for surgical residents and future directions for implementing a leadership curriculum for Canadian residency programs in the competency by design era.

**T**he coronavirus disease 2019 (COVID-19) pandemic is an unprecedented public health crisis affecting health care delivery around the world. The virus continues to spread around the globe, paying no respect to borders, gender, race or religion. Its spread has illustrated, every day, the critical factor in managing its inexorable progress: leadership and the organization of governmental, institutional, professional, local and personal responses to this modern plague. Where authoritative and timely responses have been instituted, the viral advances have been slowed, and the menace at least contained, if not eradicated. Where such leadership has been tardy or politically charged in nature, the spread has continued almost unfettered. Leadership in such a time is crucial.

Nowhere is this more apparent than in the treatment and triage of surgical disease amid the COVID-19 crisis. Strategizing to manage finite resources, all while advocating for patients and maintaining a positive workplace culture is demanding and requires a variety of leadership styles. Around the world, surgeons are endeavouring to handle care coordination virtually in order to maintain continuity of care, prioritize patient convenience and protect the larger community from nosocomial exposure. Many are lending their services in uncertain and high-stakes environments (e.g., COVID ICUs) where they must break down silos and empower a diverse set of individuals to foster creativity, communication and commitment to a singular goal: excellent patient outcomes provided by a high-functioning and collaborative team.

Even in the absence of a global pandemic, surgeons are expected to lead and thrive in multidisciplinary teams on a daily basis. The traditional pyramidal structure of surgical leadership with the “boss barking orders to subordinates” is being replaced by a collaborative, more democratic model that hinges on a shared sense of purpose and recognition of leadership potential, irrespective of roles or positions. Such a transformation requires a more concerted effort on the parts of surgical training programs to add a “leadership curriculum” to the current educational model. Currently, only 1 of Canada’s 17 general surgery training programs (University of Sherbrooke) offers formal leadership training for residents, which includes biannual simulation-based training using multidisciplinary interactions and real-time feedback directed at improved collaboration and leadership skills.

A number of surgical residency programs across North America have adopted a competency by design curriculum — one that emphasizes evolution of skills based not on traditional time periods (i.e., rotations), but on consistent, careful monitoring, measurement and continual feedback on performance toward stated objectives. This has been recognized by accrediting bodies, including the Accreditation Council for Graduate Medical Education, whose defined core competencies include interpersonal skills, communication, professionalism, patient care, knowledge, practice and systems-based management.<sup>1</sup> The Royal College of Physicians and Surgeons of Canada has also amended its core competencies to include “leadership” as a crucial attribute of all clinicians;<sup>2</sup> however, there remains a general lack of definition and strategy to reach that objective.

A structured leadership program can improve a surgical resident’s view of leadership and provide him/her with the tools necessary to deliver efficient quality of care in a more collaborative environment. Awad and colleagues<sup>3</sup> piloted a 6-month focused leadership training program, which they found was associated with a significant increase in residents’ self-perceived capacity to create and manage powerful teams through alignment, communication and integrity. Subsequent experience with leadership development programs has demonstrated a positive impact on the training experience in a variety of other North American residency programs, including neurosurgery and general surgery.<sup>4-6</sup> Although many trainees and faculty have identified a need for self-improvement with respect to leadership principles,<sup>7,8</sup> most surgical residency programs lack formal exposure to training in nontechnical skills, including teaching, leadership and conflict management.

Residency programs must define the roles and responsibilities of members of a high-functioning surgical team, with emphasis on a collaborative, coordinated approach to the whole process of surgery, accompanied by a formal agenda for leadership training. A needs assessment with relevant stakeholders can also inform selection of the program’s content and enhance its relevance and utility for residents. Based on experience from the University of Michigan, leadership development programs should focus on 3 guiding principles: learning, feedback and practice.<sup>9,10</sup> Mental models (i.e., abstract representations of actual cases) can be used in lectures and practical workshops to teach fundamental principles, such as leadership styles, developing vision-driven teams, conflict resolution and emotional intelligence — the ability to manage ourselves and our relationships effectively.<sup>11</sup> Learning should be accompanied by formative feedback on a resident’s leadership performance, desired leadership goals and avenues for improvement. Residents and faculty are also encouraged to practise their skills by formally setting leadership goals at the start of each rotation and soliciting frequent feedback from peers and faculty during mandatory performance evaluations. This has been shown to increase accountability within a surgical team and facilitate sustained practice.<sup>9</sup>

It is also important to devise a program evaluation framework that assesses changes in outcomes, including self-reported leadership behaviour, organizational impact and benefit to patient outcomes.<sup>12</sup> Other key factors include collecting objective and quantitative data using external raters and comparing participants’ performance to those in a control group or a nonintervention population. These data should be collected at baseline, at the end of the intervention, and retrospectively to assess the relative and sustained changes in key outcomes.<sup>12</sup>

## CONCLUSION

The COVID-19 pandemic has served to illustrate the importance of leadership training for health care professionals. Now more than ever, surgical residency programs must place a greater emphasis on leadership as a critical aspect of training that recognizes the modern and improving culture surrounding surgical practice. This is imperative to produce well-rounded surgeons who are equipped with the skills necessary to address the complex needs of patients and our evolving health care system.

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## References

- Holmboe ES, Edgar L, Hamstra S, eds. *The Milestones Handbook*. Chicago: Accreditation Council for Graduate Medical Education; 2016.
- Frank JR, Snell L, Sherbino J, eds. *CanMEDS 2015 Physician Competency Framework*. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.
- Awad SS, Hayley B, Fagan SP, et al. The impact of a novel resident leadership training curriculum. *Am J Surg* 2004;188:481-4.
- Pettit JE, Dahdaleh NS, Albert GW, et al. Neurosurgery resident leadership development: an innovative approach. *Neurosurgery* 2011;68:546-50.
- Hanna WC, Mulder DS, Fried GM, et al. Training future surgeons for management roles: the resident-surgeon-manager conference. *Arch Surg* 2012;147:940-4.
- Pradarelli JC, Jaffe GA, Lemak CH, et al. A leadership development program for surgeons: first-year participant evaluation. *Surgery* 2016;160:255-63.
- Jaffe GA, Pradarelli JC, Lemak CH, et al. Designing a leadership development program for surgeons. *J Surg Res* 2016;200:53-8.
- Pandya T, Dirks R, Kwok A. Leaders are made, not born: a leadership development curriculum for general surgery residents. *JACS* 2017;225:e154-5.
- Vu JV, Harbaugh CM, Dimick JB. The need for leadership training in surgical residency. *JAMA Surg* 2019;154:575-6.
- Vu JV, Harbaugh CM, De Roo AC, et al. Leadership-specific feedback practices in surgical residency: a qualitative study. *J Surg Ed* 2020;77: 45-53.
- Goleman D. Leadership that gets results. *Harv Bus Rev* 2000; March-April:2-16.
- Geerts J, Goodall A, Agius S. Evidence-based leadership development for physicians: a systematic literature review. *Soc Sci Med* 2019;246:112709.