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## Resident training and the dictated operative report: a national perspective

[Lawrence M. Gillman](#), MD, MMedEd, [Ashley Vergis](#), MD, MMedEd, [Krista Hardy](#), MD, MSc, [Jason Park](#), MD, MEd, and [Mark Taylor](#), MD, MSc

From the Department of Surgery, University of Manitoba, Winnipeg, Man

Correspondence to: Dr. L.M. Gillman, Department of Surgery, AE101-820 Sherbrook St., Winnipeg MB R3A 1R9, Email: [gillmanlm@yahoo.ca](mailto:gillmanlm@yahoo.ca)

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### Abstract

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#### Background

Using a nationwide survey, we aimed to determine the current status of operative dictation training in Canada.

#### Methods

Residents and program directors in general surgery programs in Canada participated in this survey.

#### Results

In all, 274 residents and 11 program directors responded to the survey (70% and 79% response rates, respectively). Among residents, 73% reported that their dictations were in need of improvement, and 56% reported never receiving feedback about their dictations. Most residents (80%) stated that they learned to dictate by reading old operative dictations, 75% reported that their program did not use any formal methods to help improve dictations, and 70% requested further training in dictation. In all, 91% of program directors felt that residency programs should include formal training in dictation but half could not identify any formal methods currently used in their programs.

#### Conclusion

There appears to be a marked deficiency in resident training in operative dictation nationwide.

The dictated operative note is an integral component of patients' medical records. Its importance in communication mandates that it be included in the medical reports of all surgical patients.<sup>1</sup> A proficient dictation should clearly and succinctly describe the operative indications and findings and detail the steps of the procedure performed. In addition to its direct role in communicating critical details of patient care, this document also serves a purpose in resolving medicolegal conflicts and remunerating surgeons for services provided.<sup>2</sup>

Although the importance of a thorough and comprehensive operative report is clear, available evidence indicates that the quality of operative reports dictated by residents and surgical attendings is poor. Critical details are often omitted whereas superfluous information is included.<sup>3–5</sup> In a recent review of 40 randomly selected operative reports for rectal cancer surgery, only 46% of items deemed important by a consensus panel could be retrieved, whereas unnecessary

information could be retrieved 97% of the time.<sup>5</sup> Despite the low quality, most (82%) programs report no formal education in surgical notation skills as part of their residency curriculum.<sup>6</sup>

Although student-centred learning is dominant in adult education, little is known about educator and surgical trainee perceptions about acquiring and performing operative dictation skills. We recently reported the results of a single-institution trainee survey<sup>7</sup> in which we found that junior residents were uncomfortable with dictating, believed that their reports were inadequate and wanted formal instruction in operative reporting. Furthermore, trainees at all levels identified emulation (reading or listening to the reports of others) as their primary method of improving their own dictations,<sup>7</sup> which raises some major concerns given the poor quality of existing operative reports.<sup>3–5</sup> In this study, our aim was to summarize the current status of operative dictation training in Canada and determine if there is a desire for formal operative dictation training in residency programs.

## Methods

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### Survey development

Three of the authors with backgrounds in surgery and medical education (L.M.G., A.V. and J.P.) developed the questionnaire items. Items on the resident survey were grouped as comfort level with and perceived quality of dictations, review and formal feedback received on the quality or content of dictations, and methods used to improve dictations.

A similar survey was concurrently distributed to program directors. The survey contained a total of 18 questions, which were a mixture of scaled response, forced choice, open-ended and list selection questions.

Representative questions were piloted with 3 residents from our own institution. Specifically, the questions were checked for clarity, completeness of forced choice and list selection items, and comprehensiveness. We used this information to refine the survey, which was then loaded into a web-based program and completed by all coauthors to ensure that the survey functioned correctly.

### Participants and survey administration

We contacted all general surgery residents and program directors at English-speaking programs in Canada via email through each program's surgical education office.

Participants were sent an initial email that contained a link to the secure web-based survey. Three further reminder emails were sent at 2- to 3-week intervals for participants who had not yet completed the survey. Informed consent for the study was obtained by a method approved by our institutional health research ethics board.

### Data analyses

We primarily used descriptive statistics. We compared the mean responses between junior (postgraduate year [PGY] 1–3) and senior (PGY 4–6) residents where applicable, using a 2-tailed Student *t* test. We considered a *p* value of less than 0.05 to be statistically significant.

## Results

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### Responses

We identified and contacted 389 residents. After 4 mailings, 274 residents (70%) had completed the survey. Respondents included 167 junior residents and 107 senior residents. Eleven of 14 program directors (79%) participated in the survey.

### Comfort level with and perceived quality of dictation

We assessed the comfort level with and perceived quality of dictations based on response to 4 statements ([Table 1](#)). When we analyzed the responses by training level, senior residents were more likely than junior residents to describe their

dictations as excellent (36% v. 12%,  $p < 0.001$ ) and express comfort with dictation (64% v. 22%,  $p < 0.001$ ). Senior residents were less likely than junior residents to agree that their dictations were in need of improvement (56% v. 85%,  $p < 0.001$ ) and be interested in further training in dictation (55% v. 80%,  $p < 0.001$ ).

Table 1  
Residents' ( $n = 274$ ) responses about their level of comfort with dictation

Statement	Disagree	Neutral	Agree
I feel comfortable with dictation	40 (15%)	100 (36%)	134 (49%)
I am very comfortable with dictation	33 (12%)	79 (29%)	162 (59%)
I feel dictation was a need of improvement	52 (19%)	117 (43%)	105 (38%)
I would like further training in dictation	58 (21%)	100 (37%)	116 (42%)

**Table 1**

Residents' ( $n = 274$ ) responses about their level of comfort with dictation

Program directors shared similar overall opinions. Two (18%) agreed that resident dictations are excellent, 6 (55%) agreed that residents are comfortable with dictation, and 7 (82%) agreed that resident dictations are in need of improvement and that their residents would benefit from further training in dictation.

### Reviewing completed dictations

Nearly half of all residents (48%) indicated that they infrequently review their own dictations ([Table 2](#)). A similar number (49%) felt that their attendings rarely assessed resident operative reports. Despite reviewing their dictations infrequently, the majority (204 residents, 74%) perceived that when they did review their dictations, it was beneficial. Finally, 44% indicated that when they did read their dictations, there were errors present more than 25% of the time ([Table 2](#)).

Table 2  
Residents' ( $n = 274$ ) responses about the reviewing of dictations by the resident and their attending

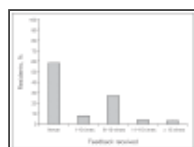
Statement	Never	Infrequently	Occasionally	Frequently
I review my own dictations	132 (48%)	117 (43%)	19 (7%)	16 (6%)
I feel my attendings read my dictations	132 (48%)	117 (43%)	19 (7%)	16 (6%)
I feel my attendings read my dictations	132 (48%)	117 (43%)	19 (7%)	16 (6%)
I feel my attendings read my dictations	132 (48%)	117 (43%)	19 (7%)	16 (6%)

**Table 2**

Residents' ( $n = 274$ ) responses about the reviewing of dictations by the resident and their attending

### Feedback on dictations

In all, 153 residents (56%) reported that they had never received feedback about their dictations ([Fig. 1](#)). Of those who did, 105 residents (92%) agreed that the feedback was useful.



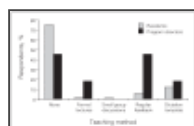
**Fig. 1**

Residents' perceptions about the number of times they received feedback about their dictations throughout their entire residency.

Although most program directors (9/11, 82%) stated that they give residents feedback on their dictations, it was done less than 25% of the time. Additionally, only 1 felt that their surgical faculty regularly critiqued resident reports, and 10 (91%) indicated that feedback was given less than 10 times per year.

### Methods used by programs to improve dictations

In total, 206 residents (75%) indicated that their program did not use any formal methods to help improve operative dictation. Ten program directors (91%) agreed that residency programs should include formal training in operative dictation. The various methods identified by residents and program directors are summarized in [Figure 2](#).

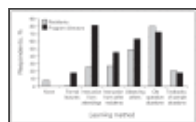


**Fig. 2**

Methods instituted by programs to help residents learn to dictate, as identified by residents and program directors.

### Methods used by residents to improve dictations

Most residents (92%) used at least 1 method to improve their dictations ([Fig. 3](#)). Nine program directors (82%) reported that residents received personal instruction from attending surgeons, whereas only 26% of residents identified this method.

**Fig. 3**

Methods used by residents to learn to dictate as identified by residents and program directors.

## Avenues of improvement

Residents and program directors most frequently indicated that dictation templates and formal feedback should be used to enhance reporting skills. Overall, 107 residents (39%) and 6 program directors (55%) preferred regular feedback, whereas 118 residents (43%) and 3 program directors (27%) favoured dictation templates as the single intervention that they would like to see instituted in their programs.

## Discussion

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The CanMEDS format was instituted by the Royal College of Physicians and Surgeons of Canada in 2005. It was developed as a framework for resident education, stressing not only the importance of training residents in the roles of medical expert and scholar but also expanding resident training to the realms of communicator, collaborator, manager, health advocate and professional. The role of communicator includes not only verbal but also written communication.

In the surgical realm, the dictated operative note is an integral form of communication. Unfortunately, education around the composition of this document has been, to date, mostly ignored in surgical curricula. Our data suggest that in Canada, residents are frequently left on their own to complete this operative note with little direction as to the proper content or format.

Overall, senior residents were more likely than their junior counterparts to report that they were comfortable with operative dictation and that they were satisfied with the quality of their operative reports. However, more than half of senior residents and more than 80% of junior residents believed that there was room to improve their dictating skills. The directors of general surgery programs reported similar beliefs with respect to their residents' comfort level with dictation. However, they were less satisfied with the quality of resident documentation and more likely to report that their trainees would benefit from further training in dictation.

The comfort of the senior residents with dictation and their perception of learning mastery is somewhat predictable. With ongoing experience, learners will intuitively become more comfortable with their performance and believe that their performance is adequate. However, this finding should be viewed cautiously. A trainee's self-perception may not reflect true learning outcomes.<sup>8,9</sup> In a recent experiment that assessed the quality of resident dictation after viewing a videotaped laparoscopic procedure, we found that senior residents missed 21% of composite items on a validated dictation assessment tool (SAFE-OR).<sup>10</sup> These findings are consistent with the perceptions of the program directors and suggest that, at the very least, interventions to improve operative dictation in surgical residencies should begin during the junior residency years.

Feedback from staff and self-assessment is vitally important in the learning process and in enhancing educational outcomes.<sup>11–13</sup> It enables learners to gain mastery of a topic or skill set by helping them identify deficiencies in their performance so that they can be addressed. General surgery residents appear to rarely review their own operative reports despite the perceived benefit of doing so. Furthermore, trainees and program directors believe that surgical faculty infrequently review resident operative dictations. Residents in this survey overwhelmingly reported that the feedback, when provided, was useful. Interestingly, 5% of residents, compared with almost half of program directors, identified "regular feedback" as a method of program instruction. This discrepancy may be related to differences in what residents and directors consider "regular," under-reporting by residents or a disconnect between program directors' expectations of the curriculum and what is actually being delivered. Regardless, this indicates the need to improve the quantity of self-review and feedback in operative dictation training.

Most residents and half of program directors could not identify formal methods used by their program to improve operative dictation training, although most felt that it should be included in the surgical curriculum. Thus, residents were

required to seek out other self-directed methods of education around this topic. Most general surgery residents (92%) reported using at least 1 method to improve their dictations. The majority indicated that they emulated other staff or senior residents to learn reporting skills (reading old reports or listening to dictations). These findings are consistent with the perceptions of program directors in American General Surgery and Obstetrics and Gynecology programs.<sup>6,14</sup> Interestingly, this learning style is not confined to the surgical arena. When surveyed, 98% of radiology residents reported no formal or organized reporting curriculum. Similar to our results, 90% indicated that they learned to dictate by observing their peers, senior residents and staff. Residents in this survey felt that this model was deficient; 85% said they rarely or never received feedback on their reports. Overall, 93% of residents in this report were dissatisfied with the current method of teaching.<sup>15</sup>

Learning by emulation relies on the hypothesis that senior residents and staff surgeons are dictating effectively. This assumption is discordant with data which suggest that resident and staff surgeon reporting skills are unreliable.<sup>3-5</sup> Because residents appear to receive inadequate feedback, it is worrying that junior trainees are learning to dictate from those more senior to them because this may serve only to perpetuate the low quality of operative dictation.

Both program directors and residents identified regular feedback as a method they would like to see instituted to help improve operative dictations in surgical residency. The other method identified was the distribution of operative dictation templates. This method could be advantageous over other methods because it is easy to institute and would not significantly burden resource-constrained surgical curricula. We are currently conducting a randomized trial at our institution to assess whether the use of operative dictation templates improves the quality of operative dictations, which will be evaluated using previously validated outcome measures.

Our study presents a national perspective of residents' and program directors' perceptions about the current status of operative dictation training, which represents an important but poorly studied area that has important clinical and educational implications. Our response rate, especially given the magnitude of the survey, was very high. The findings of our study have certain limitations in that they represent participants' perceptions, which may be affected by recall bias. However, the findings serve as a "needs assessment," identifying deficiencies in current dictation training methods and a clear desire for formal training in dictation skills through regular feedback and dictation templates.

## Conclusion

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The results of our survey indicate a marked deficiency in resident training in operative dictation in general surgery programs nationwide. Most general surgery residents receive little feedback on their dictations and learn to report by emulating those around them. Both residents and program directors recognize these deficiencies and are open to implementing methods to improve operative dictation training in general surgery residency programs. In particular, participants identified regular and structured feedback and the distribution of operative dictation templates as areas for further study to enhance dictation training and improve the quality of operative reports.

## Acknowledgements

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## Footnotes

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**Competing interests:** None declared.

**Contributors:** Drs. Gillman, Vergis, Park and Taylor designed the study. Drs. Gillman, Vergis and Hardy acquired the data, which all of the authors analyzed. Drs. Gillman, Vergis and Hardy wrote the article. All authors reviewed the article and

approved its publication.

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