HOW BAD IS REALLY BAD, EH?
IMPACT OF THE FIRST WAVE OF COVID-19 PANDEMIC ON RESIDENTS OPERATIVE VOLUME

THE EXPERIENCE OF A CANADIAN GENERAL SURGERY PROGRAM

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Even though many have opined that the COVID-19 pandemic poses an unprecedented threat to resident education, there has been little quantitative data regarding the pandemic's burden on operative exposure of general surgery residents as most studies are qualitative. Providing mesurable evidence is crucial in order to understand the real impact of the sanitary crisis on surgical training and implement mitigating measures accordingly.

Aim To quantify trainees' operative volume and assess the effect of the first wave of COVID-19 on general surgery residents training at a Canadian academic center

Primary outcome

Total major cases performed* by residents during the first wave of the pandemic

*as a primary operator or assistant

Methods



Quantitative data

-Anonymized residents' case logs
-Annual departmental statistics

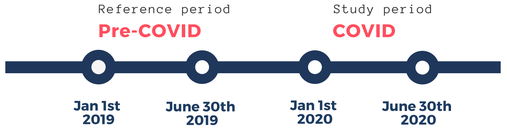
Qualitative data

-Resident led focus group on perceived effect of the COVID-19 1st wave on surgical education (june 2021)

Study population (n= 21)

All General Surgery residents enrolled at our institution during the reference and study periods

Timeline



RESULTS

Total Operative Volume

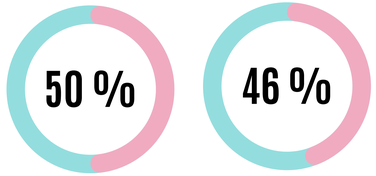
48% OVERALL REDUCTION

914 cases PRE-COVID

475 cases FIRST WAVE OF COVID

Data from 21 residents in general surgery

Relative reduction of operative cases by training level



58 % PGY-1 were the most affected by the reduction in operative volume with a reduction of 58%

37 % PGY-4 were the least affected by the reduction in operative volume with a reduction of 37%

Table 1: Types of cases performed by junior residents (PGY 1-2)

Total number of procedures	Pre-COVID Period	COVID Period	Reduction from 2019 to 2020 (%)	p-value
Laparoscopic Appendectomy	97	28	71	0,01
Laparoscopic Cholecystectomy	80	41	49	0,94
Open Hernia Repair	117	34	71	0,01

Table 2: Types of cases performed by senior residents (PGY 3-4-5)

Total number of procedures	Pre-COVID Period	COVID Period	Reduction from 2019 to 2020 (%)	p-value
LAR/ sigmoidectomies	62	28	55	0,46
Right hemi-colectomy and ileocaecale resection	40	17	58	0,42

REDUCTION IN KEY PROCEDURES DURING THE COVID PERIOD

Junior Residents

Laparoscopic Appendicectomy **(-71%)**

Laparoscopic Cholecystectomy **(-49%)**

Senior Residents

Lower Anterior Resection **(-55%)**

Right Hemicolectomy **(-58%)**

CONCLUSION

- The first wave of COVID-19 compromised hands-on exposure of all residents with an overall reduction of 48% in operative volume across all levels of training
- The reduction in operative volume affected especially junior trainees.
- The negative impacts of the pandemic on surgical exposure raises concerns amongst residents about the short- and long-term effects on their technical skills.
- The insights brought by this study will help create personalized mitigating measures and guide future curriculums to be more resilient in the face of a next sanitary crisis