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## Early adaptation of urology residency programs during COVID-19 clinical and gathering restrictions

## L'adaptation rapide des programmes de résidence en urologie aux restrictions des activités en milieu clinique et scolaire associées à la COVID-19

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### Introduction

COVID-19 has struck the world in a rapid fashion, affecting healthcare systems across the globe. It originated in the city of Wuhan, China, and has since been spread to all continents, affecting 187 countries.<sup>1-3</sup> It led to a shutdown of non-essential businesses, cancellation of elective surgeries and procedures, wholesale conversion of outpatient medicine into virtual or tele-medicine, cancellation of medical licensing examinations, and clinical rotations. The learning environment of medical trainees at all stages has been broadly disrupted.<sup>4-8</sup>

This is a global health crisis unlike anything our healthcare systems have experienced. Residency programs are central to the function of large academic hospitals and outpatient clinics. Disruptions to residents' normal learning include clinical redeployment, cancellation of off-service rotations, loss of elective surgeries and procedures, and adaptation to virtual or telemedicine out-patient consults.<sup>9,10</sup> Surgical residency programs are a special circumstance, as procedural training is the *modus operandi*, and typically occupies a large part of training time and energy. Residency program leaders and administrators are faced with navigating these changes in the context of their training programs; it is important to understand how programs and departments are handling workload changes and their

effects on residents' education and training. Previous research demonstrates that e-learning can be an effective learning tool for surgical residents.<sup>11</sup> Some academic urological programs have already implemented on-line journal clubs, reduction in clinical duties including surgical procedures, out-patient contact, and call duties.<sup>9,10</sup> Further changes include reduction of personnel in the OR to limit personal protective equipment use, and minimizing off-site rotations.<sup>12</sup>

This study focuses on Canadian academic Urology programs and their departments. As this is a "screenshot" in time, the aim is to understand the early adaptations academic urology programs have utilized, including changes to clinical roles, access to operating rooms, outpatient clinic participation (and exposure to activities to fulfill entrustable professional activities (EPA) for Competence by Design (CBD) residents) and changes to the educational program, from academic half-day through journal club. These changes will have untold long-term effects on residents and urological training in the future.

### Methods

We created a 25-question anonymous survey using Google Forms, and circulated to all 13 urology program directors in Canada with an estimated 100% response rate. Questions focused on themes that previous literature have touched

on, such as changes to didactic learning, access to operating rooms and clinic, and rotation specific alterations.<sup>9,10</sup> We obtained research ethics approval prior to circulating the survey. The purpose is to assess the effect COVID-19 is having on academic urology programs in Canada in terms of clinical training and the educational program, and on the department as a whole. We will perform summary statistics of quantitative data and scales. We will assess free-text data qualitatively for themes and compiled into lists. We prepared a manuscript, and knowledge translation effected by sharing and discussion with the urology Royal College Specialty Committee. Collaborations with other groups in terms of long-term effects on residents and residency programs are welcomed, including performance on the delayed Royal College exams, time to fulfillment on CMBE objectives, and changes in resident education methods.

## Summary

Residency programs, and surgical programs in particular, are facing unique challenges to high quality teaching, surgical training and provision of mutually safe care to patients under COVID-19. Some programs have implemented changes like the use of e-learning, reduced patient contact and call coverage, cancellation of off-site rotations, and redeployment of residents in-hospital. This project will gather data on changes to Canadian urology departments and residency programs. These adaptations during COVID-19 may be long lasting and may change how resident training occurs in urological programs nationwide. It is important to assess what these adaptations are, so that the long-term effects can be measured and perhaps modify future urological residency training.

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