



## COVID-19's Impact on University Residents

The COVID-19 pandemic affected nearly every aspect of the University of Washington ophthalmology resident training experience. From March 16 to April 30, our hospital canceled all elective procedures and clinical visits. Our residency program implemented a rotating clinical schedule to limit

resident exposures and modified consult criteria to limit consults to only those that were truly urgent.

We compared resident call, clinic, and surgical volumes between the six-week period of the hospital's initial pandemic response and the six weeks immediately prior. During the pandemic response, residents experienced a 50% decrease in number of consults on call. However, consults tended to be more severe and sight-threatening—including a higher proportion of open globe injuries, endophthalmitis, and traumatic retrobulbar hemorrhages. The percentage of open globe injuries among consults seen on call quadrupled during the pandemic period, from 3.2% to 13.6%. Clinic volumes at the resident-run county clinic decreased by 67%, and resident surgical cases decreased by 83%.

As these changes occurred, residents worried about losing surgical experience as well as about patients who were choosing to delay care for sight- and life-threatening problems due to fears of contracting the virus. As residents continued to see acutely ill patients, several were exposed to COVID-19 in the clinical setting, and many were concerned about contracting and spreading the disease. They also worried about their job prospects in upcoming years with continued COVID-19 related closures.

The measures taken by our hospital and department helped curb an overwhelming outbreak and kept our residents healthy, but these measures also came with a large decrease in training volumes. As we anticipate future COVID-19 surges, and we focus on the health and safety of our community, we will also need to consider the impact on the clinical training and future careers of residents.

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## Cosmetics Linked to Endophthalmitis?

Procedural recommendations aimed at reducing the incidence of endophthalmitis after intravitreal injections (IVIs) are periodically published.<sup>1,2</sup> Of note, one study has reported a 30% increased risk of post-IVI endophthalmitis in women, while another reported a 29% increased risk.<sup>3,4</sup> In these studies, this risk was attributed to the greater incidence of dry eye syndrome (DES) in women, which hypothetically impairs the anti-infective properties of a normal tear film. We believe that the application of cosmetics to the ocular adnexa may be a contributing factor as well.

Goto et al. showed that the incidence of cosmetic product material (CPM) migration onto the ocular surface could be as high as 96% if the CPM is applied close to the eyelid margin. Even when the CPM is applied 2 mm away from the eyelash line, it can still migrate into the tear film in more than 96% of subjects if a saline drop is placed in the eye.<sup>5</sup> Although most cosmetics contain a preservative, repeated use of the same vial, age of the product, and sharing of the vials can significantly increase the bacterial contamination of a cosmetic product.<sup>6</sup> In patients who have cosmetics on the eyelid, application of an anesthetic drop on the eye prior to an IVI can lead to migration of the CPM onto the ocular surface. A contaminated cosmetic product will lead to an increase in the bacterial load on the ocular surface, theoretically reducing the efficacy of the topical povidone-iodine and increasing the risk of post-IVI injection endophthalmitis.

Published guidelines for IVI techniques and care have addressed pre-, peri-, and postinjection issues.<sup>1,2</sup> We believe that evaluation for and treatment of DES should be included in the workup of patients considered for IVI. In addition, patients undergoing IVI should be instructed to refrain from applying cosmetics to the periocular skin on the day of their scheduled injection. Physicians should also consider rescheduling an IVI if a patient presents with visible cosmetic products around the surgical eye. Further studies are warranted to investigate the effect of periocular cosmetics on the incidence of post-IVI endophthalmitis.

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1 Grzybowski A et al. *Ophthalmologica*. 2018;239(4):181-193.

2 Avery RL et al. *Retina*. 2014;34:S1-18.

3 VanderBeek BL. *JAMA Ophthalmol*. 2019;137(4):343-344.

4 Baudin F et al. *JAMA Ophthalmol*. 2018;136(12):1352-1358.

5 Goto T et al. *Cornea*. 2010;29(4):400-3.

6 Ng A et al. *Eye Contact Lens*. 2016;42(4):211-220.