

# **A Cross-Sectional Study: Assessment of the Influence of Gender on Canadian Surgical Subspecialties Research Productivity in Academic Ophthalmology, Otolaryngology, Plastic Surgery and Urology**

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## **Abstract**

**Introduction:** The road to advancing gender equity in academic surgery takes longer than in other medical specialties. Disparities in high academic ranks and leadership positions persist.

**Methods:** Ophthalmology, otolaryngology, plastic surgery, and urology residency programs were identified from the Canadian Resident Matching Service website. Academic rank was identified for all clinician faculty members using the university websites of residency programs. Gender was verified using provincial College of Physicians and Surgeons databases. *h* index, number of publications, number of citations, and number of years active were collected using Scopus. Demographic data were reported using descriptive and basic statistics. The effect of gender based on these criteria was assessed using a two-sample Wilcoxon rank-sum (Mann-Whitney) test.

**Results:** Among 690 ophthalmologists, 73% (n=505) were men and 27% (n=185) were women. The median and interquartile range (IQR) for *h* index in men and women were 6.0 [3-11] and 5.0 [3-9], respectively. Men had significantly more publications (p=.009), citations (p=.022), and active years (p<.001). There was no significant difference in *h*-index between men and women (p=.058). Among 386 otolaryngologists, 80% (n=307) were men and 20% (n=79) were women. The median and IQR for *h* index in men and women were 7.5 [3-16] and 6.0 [2-9], respectively. Men had significantly more publications (p=.012), citations (p=.029), active years (p< 0.001), and higher *h* index (p=.007). Among 301 plastic surgeons, 72% (n=216) were men and 28% (n=85) were women. The median and IQR for *h*-index in men and women were 5.0 [2-11] and 5.0 [3-10], respectively. There was no significant difference between men and women for *h*-indices (p=.549), number of publications (p=.507), citations (p=.107), unlike for the number of active years (p<.001). Among 260 urologists, 88% (n=230) were men and 12% (n=30) were women. The median and IQR for *h* index in men and women were 12.0 [5-26] and 8.0 [4-15], respectively. Men had significantly more publications (p=.026) and citations (p=.004). *H*-indices (p=.098) and the number of active years (p=.148) were not statistically different between both genders. Among all assessed surgical subspecialties, men occupied 85% of full professorship (254 men, 43 women) and 76% of overall faculty positions (1205 men, 371 women).

**Conclusion:** Gender disparities in academic representation were observed in all surgical subspecialties. Plastic surgery demonstrated the least discrepancy in research productivity metrics by gender, followed by urology, ophthalmology, and otolaryngology.

**Word count:** 2248 characters (maximum 2250)