Fig. 1. Surgeons are shown sharing the same surgical view and discussing the operation, using a heads-up three-dimensional microscope in a comfortable posture.

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this communication. There were no sources of support for this work.

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Reply: Work-Related Musculoskeletal Injuries in Plastic Surgeons in the United States, Canada, and Norway

Sir:

We would like to thank Drs. Ando, Fuse, and Yamamoto for their letter regarding our recently published study entitled "Work-Related Musculoskeletal Injuries in Plastic Surgeons in the United States, Canada, and Norway."[1] In their letter, the authors describe a modified microscope with a screen that allows both the surgeon and the assistant to look forward instead of down while performing microsurgical procedures.

In our study, we found that microsurgery was one of the three plastic surgical procedures most likely to exacerbate musculoskeletal symptoms. We also found that long surgery duration and prolonged neck flexion were two of the three maneuvers most likely to trigger musculoskeletal symptoms. Therefore, the novel idea presented by Drs. Ando, Fuse, and Yamamoto is of great potential benefit, because it allows microsurgeons to avoid prolonged neck flexion. Perhaps even more harmful than neck flexion is forward head posture, which microsurgeons tend to adopt to reach the eyepiece of the microscope, which is usually located over the patient. Forward head posture causes significant strain on the neck: for every inch of forward head positioning, the stress exerted by the head on the neck increases by 10 lb.[2]

Because the authors use the microscope at various magnifications for the entire surgical procedure, including flap elevation, the camera also obviates the need for surgical loupes, which are thought to contribute to neck pain. Although several studies have failed to demonstrate a significant association between modern lightweight loupes and musculoskeletal symptoms,[3,4] the authors' idea may have great benefit nonetheless.

Some questions regarding this new technology remain: How steep is the learning curve, in terms of hand-eye coordination, for the microsurgeon who is accustomed to operating with a conventional microscope? Does the new system allow the assistant to actively participate in the operation, or does it diminish the operating experience of the trainee? A study evaluating surgical outcomes, operating times, and the experience of both the surgeon and the trainee with the new system would be a welcome addition to both the microsurgery and ergonomics fields.

DOI: 10.1097/PRS.0000000000004956

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DISCLOSURE

Dr. Janis has served as a consultant for LifeCell, Bard, Daiichi Sankyo, Pacira, and Allergan within the last 12 months prior to submission of this article but has no active conflicts of interest, and receives royalties from Thieme Publishing. Drs. Khansa, Westvik, Lista, and Khansa have no relevant financial disclosures. Dr. Ahmad receives royalties from Thieme Publishing.

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Increasing Diversity in Plastic Surgery

Sir:

We read with great interest the article by Siotos et al. entitled, "Increasing Diversity in Plastic Surgery,"[1] and commend the authors for addressing the underrepresentation of women and minorities in plastic surgery. To effectively increase diversity, we must first appreciate the true complexity of what diversity entails. Traditional constructs of diversity are limited to basic observable traits such as race, ethnicity, and gender. Siotos et al. aptly stated that true diversity extends to include other qualities that characterize human experience, including religion, sexual orientation, and physical ability.[1] Enhancing diversity in plastic surgery has important potential, not only by improving professional opportunities for the underrepresented, but also for patient care in treating the diverse population encountered daily.[1]

Although women compose half of all medical school graduates, only 14 percent of plastic surgeons and 32 percent of plastic surgery residents are women.[2] Given the overwhelming percentage of female plastic surgery patients, we must target recruitment to reflect these patient dynamics.

Debra Johnson, M.D., the past president (in 2017) and only the second female president of the American Society of Plastic Surgeons, notes "women bring unique qualities to leadership, yet there remain barriers to gender equality,"[2] and addresses concerns that women are underrepresented in plastic surgery because of different career aspirations, lack of confidence, paucity of mentors, and antiquated gender roles.[3] Dr. Johnson states that women exhibit leadership styles associated with increased effectiveness and add diversity to decision-making, enhancing organizational performance, concluding that "a commitment to nurturing the leadership potential of all plastic surgeons will exponentially increase the creativity and influence of our specialty."[2] This challenge is not unique to medicine, and several lessons can be gleaned from large companies such as Google and Facebook as the diversity gap among female leaders continues. Sheryl Sanberg, chief operating officer of Facebook, attributes the slow progress to the "tyranny of low expectations" for women in senior leadership roles.[4]

Fostering a culture of women in leadership can have a trickle effect in engaging women and minority medical students interested in plastic surgery. To promote diversity, we need to nurture and expose an already diverse medical student pool to diverse mentors and teachers in the field. Earlier exposure and early establishment of mentorships in underrepresented groups either before or during early years of medical school are additional avenues to achieve these goals.[5] Summer research programs and The Plastic Surgery Foundation Visiting Professors program can contribute to improving diversity by means of early exposure of minority groups to plastic surgery, and interactions between visiting professors and trainees. These avenues can help close the disparity gap.[5] Fostering a culture of women, minorities, and other facets of diversity in plastic surgery leadership can have a trickle effect in promoting those with multifaceted diversity also in areas of culture, race, sexual orientation, religion, and so forth toward pursuing plastic surgery.

DOI: 10.1097/PRS.0000000000004945