

ACS 2022 Surgeons and Engineers: A Dialogue on Surgical Simulation Meeting

Research Abstracts

Comparative Millennial and Generation Z Endoscopic Surgical Skills

José L. Mosso-Vázquez; Renata Moreno-Cordero; Paula Loyola-Nieto; Alberto Moscona-Nissan; Megan Barragan-Wolff; Eduardo Brenner-Muslera; and Andrea Campos-Díaz

Universidad Panamericana, Mexico City, Mexico

Introduction: Having been raised in contrasting backgrounds, Generation Z has developed surrounded by the internet, social media, artificial intelligence, and video games as opposed to Millennial. This augmented exposure could provide an advantage for Generation Z individuals over Millennials in the development of finer laparoscopic surgical skills when comparing both groups' performance. This study aims to demonstrate that Generation Z students surpass Millennial in performing laparoscopic surgical tasks.

Methods: Two comparative groups participated, 43 Millennial and 41 Generation Z students, respectively. A laparoscopic surgical task was completed by each student with the time taken to complete the task measured in seconds. The data obtained were analyzed using representative statistics, such as mean \bar{x} , standard deviation, and maximum and minimum time. Chi-Square test analysis was chosen as the statistical method to compare surgical skills between groups. Mobile phones were integrated into Endoscopic surgical simulators and used as laparoscopes after being connected to a computing device.

Results: Generation Z performed the laparoscopic surgical task with the following results: X^2 (Chi-square test) 10.86 and α (alpha) = 0.01, and a mean time of 107.40 seconds. Meanwhile, millennial students completed the task in a mean time of 146.09 seconds.

Conclusions: Generation Z's higher performance could be explained by their precocious exposure to technological advances. Overall, technology has provided teenagers with skills such as increased hand-eye coordination and visuo-spatial cognitive abilities that could potentially be of use in medical education, specifically benefitting surgical dexterity and facility within the field.