Gynecological Resident Robotic Surgery Trends in South Carolina

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Background

Since the introduction of robotic surgery in 2005, its prevalence in gynecological surgery has increased significantly. Several studies have shown advantages of robotic surgery compared to other surgical methods, specifically reduced surgical complications and hospital length of stay, especially in obese patients. Robotic surgery provides multiple advantages over traditional laparoscopic approaches, including a shorter learning curve, improved depth perception, and more fine motor control**.** Residents entering the workforce must prepare to perform robotic-assisted laparoscopy in their future careers due to the increasing prevalence of robotics and the potential advantages over traditional laparoscopy. However, a survey administered to graduating residents revealed that only 59% felt they were prepared to perform a robotic hysterectomy by graduation compared to 79-95% for alternative routes. Based on this survey, residents also felt less autonomy and independence when performing robotic-assisted hysterectomies when compared to abdominal, vaginal, and laparoscopic approaches.

Methods

- Da Vinci Surgical provided Da Vinci surgical data directly on South Carolina consoles from teaching hospitals from 2018-2023
- Data points include: the number of gynecologic surgeons, gynecologic cases, robotic consoles, and the number of robotic simulators or backpacks

Results

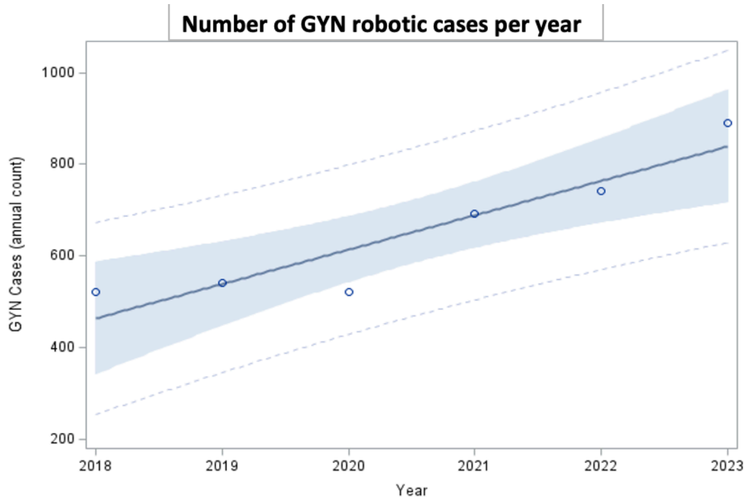

Figure 1: Number of GYN robotic cases from 2018 to 2023

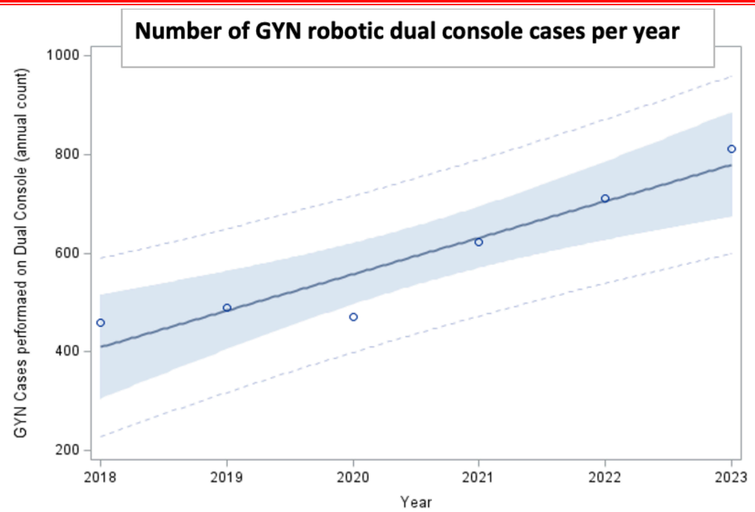

Figure 2: Number of GYN robotic dual console cases from 2018 to 2023

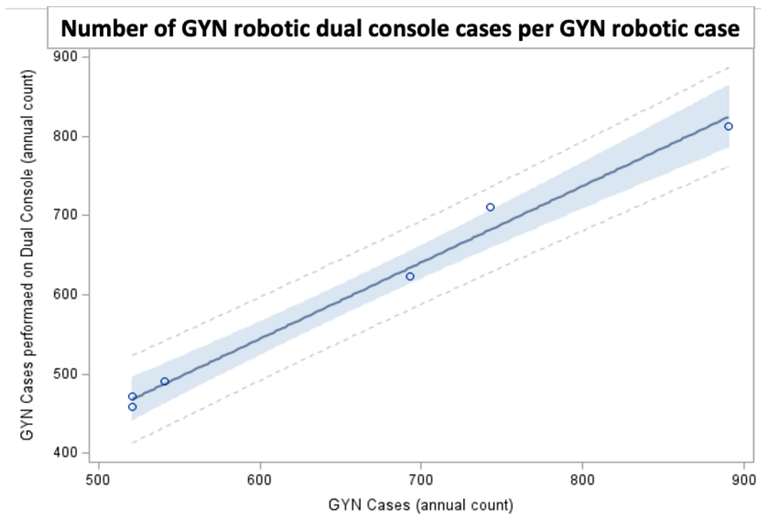

Figure 3: Number of GYN robotic dual console cases compared to overall GYN robotic cases

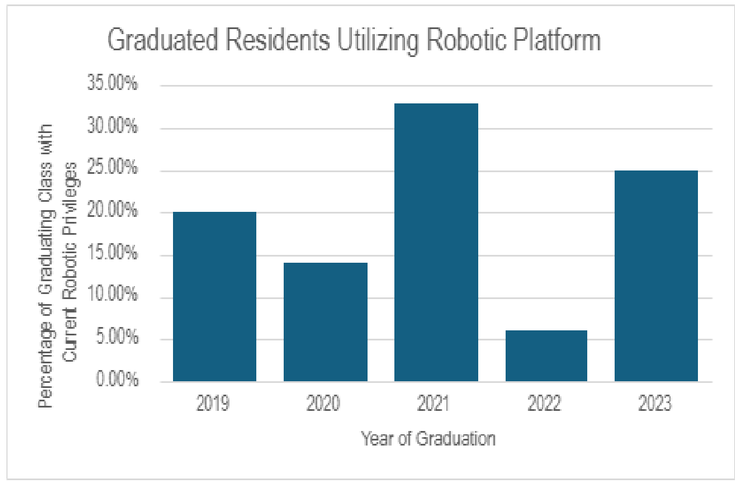

Figure 4: The percentage of recent graduates with current robotic surgery privileges in the past five years

Conclusion

- The number of gynecologic cases increased by 74.9 cases per year (P=0.007)
- The number of gynecologic surgeons operating on Da Vinci systems increased by 3.97 each year (P=0.003)
- This study showed dual console cases increased at a rate of 73.8 cases per year over the last five years (p-value of 0.004). This value shows increasing robotic utilization and the potential for increased resident training in this instrumentation.
- The number of graduates with active Intuitive accounts in SC varied from year to year and did not overall show an increase or decrease over the five-year period.