Trends in Minimally Invasive and Open Inguinal Hernia Repair: An Analysis of ACGME General Surgery Case Logs

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Introduction

- The use of MIS approaches to groin hernia repair has increased, driven by technological advances, faster recovery times, and decreased postoperative pain.
- However, open hernia repair remains an important surgical approach.
- This study analyzes the changing trends in MIS and open inguinal and femoral hernia repair in general surgery residency training over the past two decades.

Methods

- ACGME national case log data of general surgery residents from 1999 through 2022 were reviewed.
- Means and standard deviations of open and MIS inguinal and femoral hernia repairs were collected and analyzed.
- Linear regression and ANOVA were used to identify trends in the average annual number of open and MIS hernia repairs logged by residents.

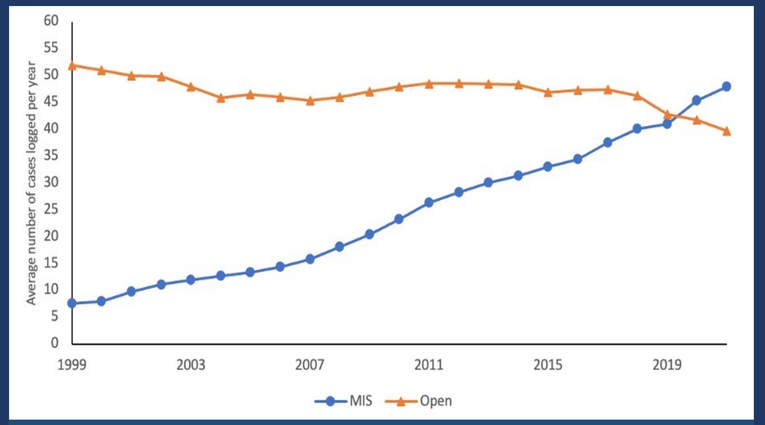


Figure 1: Total annual trends in the number of inguinal and femoral hernia cases logged by general surgical residents based on approach (Open vs MIS) from 1999-2022.

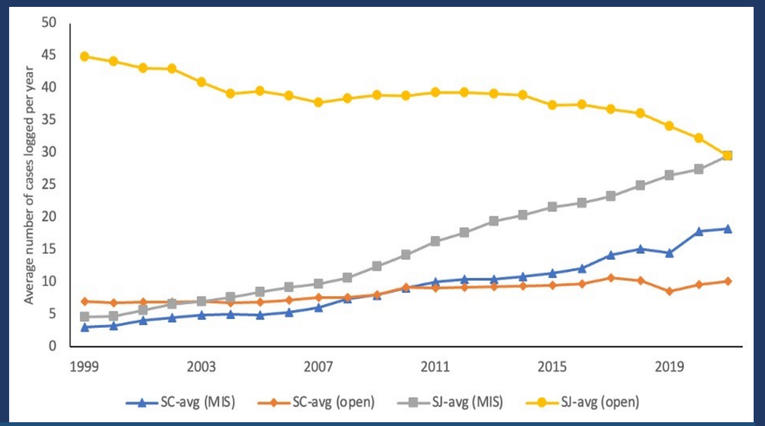


Figure 2: Total annual trends in the number of inguinal and femoral hernia cases logged by Surgeon Chief (SC) and Surgeon Junior (SJ) residents based on approach (Open vs. MIS) from 1999-2022.

Results

- A significant increase in the average annual number of MIS inguinal and femoral hernia repairs logged by general surgery residents, from 7.6 to 47.9 cases ($p<0.001$).
- A significant decrease in the average annual open inguinal and femoral hernia repairs logged by general surgery residents from 51.9 to 39.7 cases ($p<0.001$).
- Surgeon Junior (SJ) results were consistent with this overall trend while chief residents (SC) experienced an increase in both MIS and open hernia repairs ($p<0.001$).

Conclusions

- The trend from open to MIS inguinal and femoral hernia repair has impacted general surgery residency training, with a steady overall decrease in open repairs logged by residents.
- Despite the overall decrease, chief residents had an increase in open repair suggesting a skill gap prior to practice.
- This transition warrants attention and further study as a knowledge gap in open repair may arise if this trend continues.