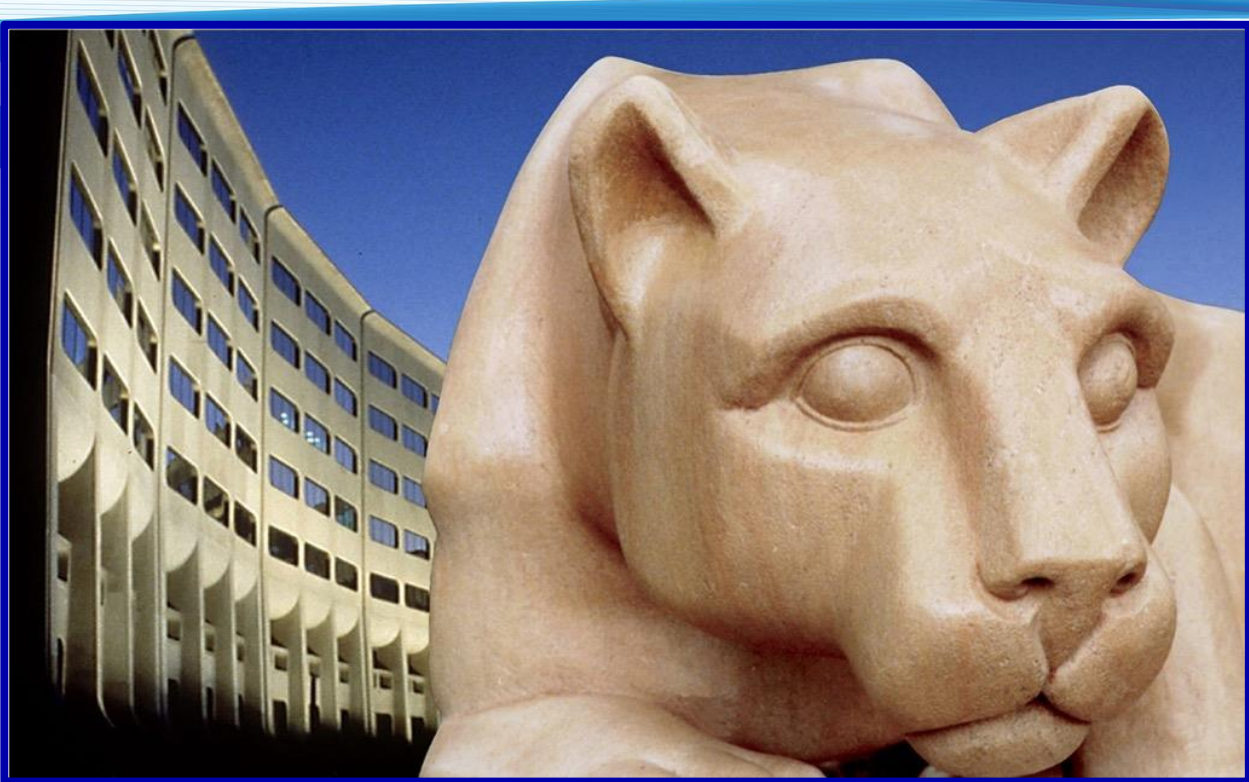




A SHIFT IN THE PARADIGM: GENERAL SURGERY RESIDENTS LEARNING TO TAKE BACK THE COMMON BILE DUCT

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Introduction

- General surgery resident training volume for both open and minimally invasive common bile duct exploration (CBDE) decreased significantly from 2000-2018¹
- Contemporary literature demonstrates that single-stage surgical clearance of the bile duct is safe with equivalent outcomes²⁻⁸
- Given advances in surgical technology and evidence to support single-stage surgical management of choledocholithiasis we re-evaluated recent general surgery resident training volume as well as national volumes

Methods

- General surgery resident case volume was obtained from national ACGME case log data from 2000-2024
- The National Surgical Quality Improvement (NSQIP) database was utilized to obtain surgical volumes from 2006-2023
- Linear regression analysis was utilized to evaluate for change across years
- We were unable to delineate robotic vs. laparoscopic cases due to limitations in the databases

Results and Figures

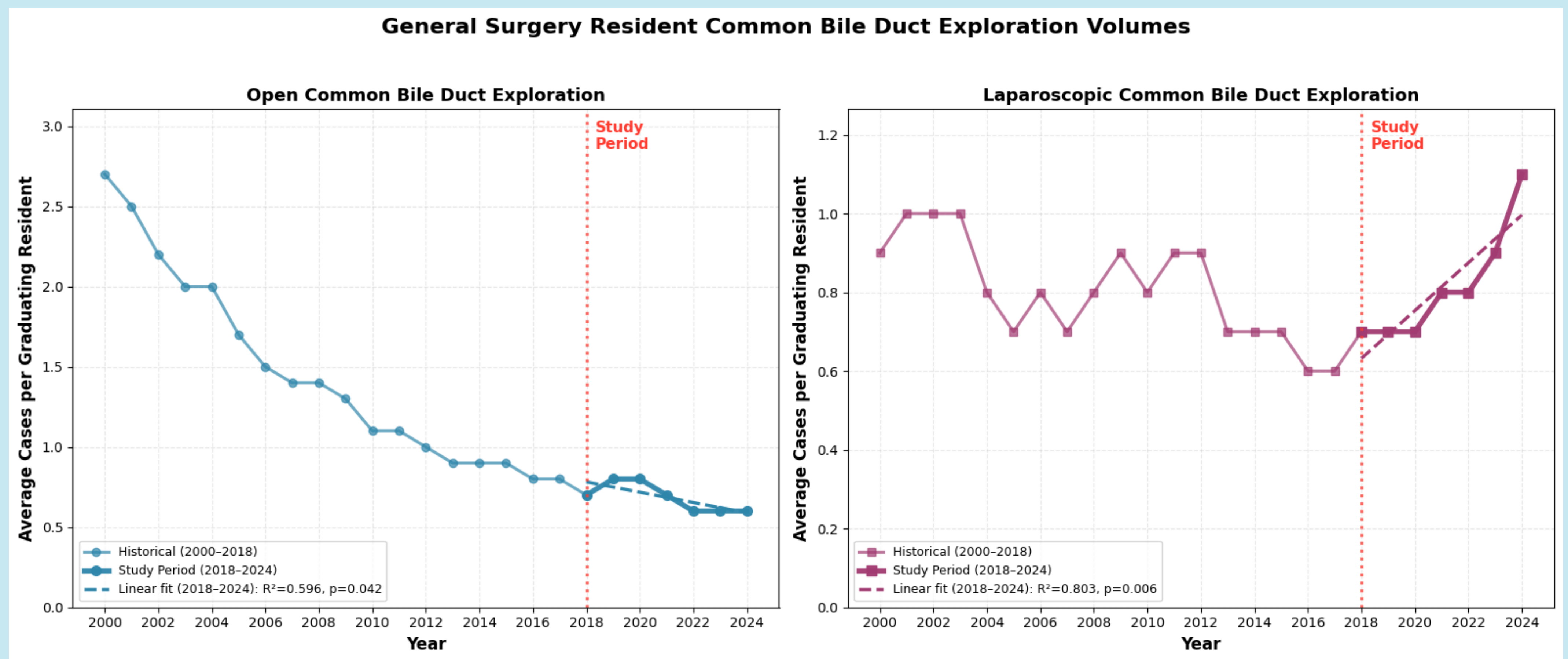


Figure 1: General surgery resident experience in common bile duct exploration. Data points represents mean number of open and laparoscopic CBDE cases performed per graduating general surgery resident based on ACGME case log data. Dashed lines represent linear regression trend analysis. Open CBDE showed a continued decline of 14.3% ($p=0.042$, $R^2=0.596$) while laparoscopic CBDE demonstrated a statistically significant 57.1% increase ($p=0.006$, $R^2=0.803$).

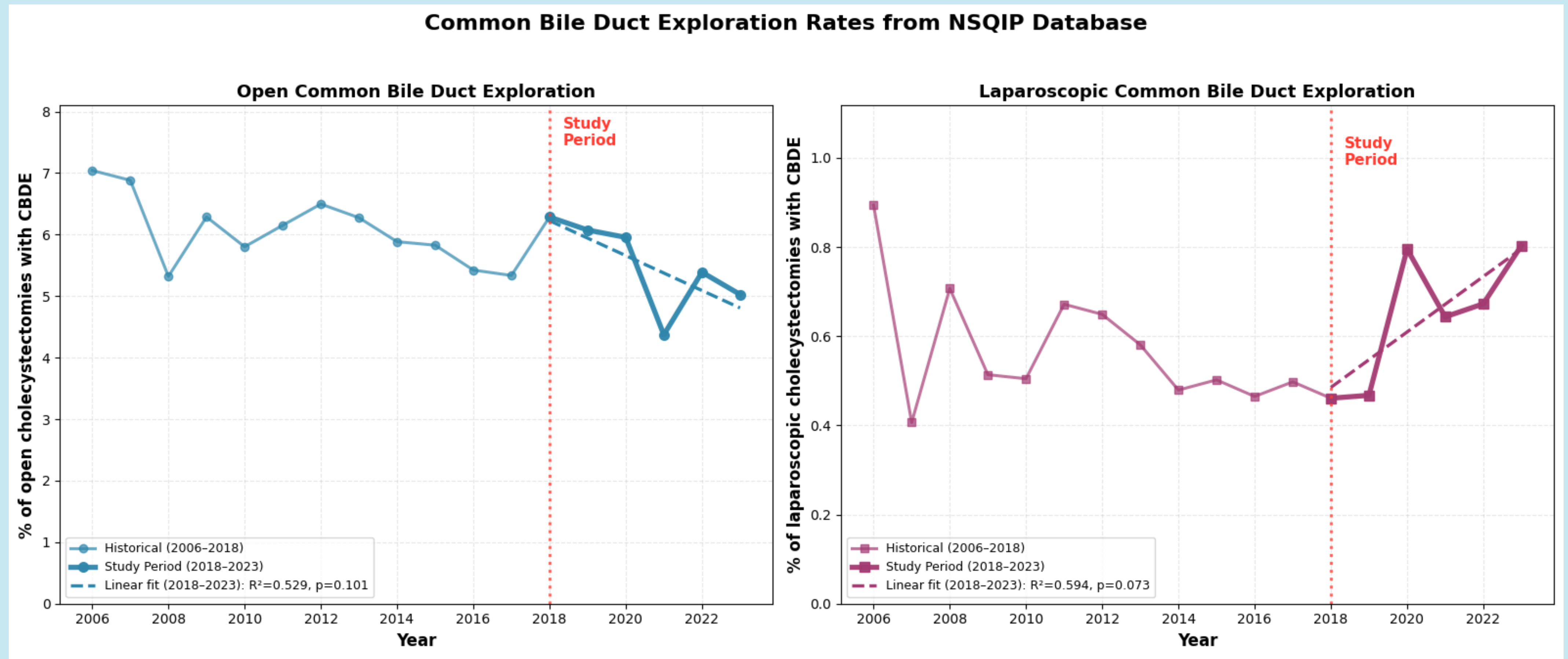


Figure 2: Percentage (%) of open and laparoscopic cholecystectomies with CBDE from 2006-2023 from NSQIP database. Dashed line represents linear regression trend analysis. Open CBDE decreased by 20% ($p=0.101$, $R^2=0.529$) while laparoscopic CBDE increased by 74.3% ($p=0.073$, $R^2=0.594$).

Conclusions

- Both general surgery residents and surgeons on a national level are performing more minimally invasive laparoscopic common bile duct explorations
- Open common bile duct exploration volume continues to decline on both the resident and national level
- General surgery resident training experience parallels national trends in contemporary biliary surgery practice
- We believe the increased volume is being driven by a combination of increasing evidence for single-stage biliary clearance and improved technology (i.e. robotic surgery, SpyGlass™)

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