

Title: The Impact of the COVID Pandemic on the Operative Trends for Cardiothoracic Surgery Trainees: A Retrospective ACGME Case Log Study

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Background:

The COVID-19 pandemic was associated with a massive decrease in the operative volumes of cardiothoracic surgeons. How this decrease impacted the operative experience of trainees is not yet clear.

Methods:

A retrospective analysis of ACGME case logs was conducted for graduating general surgery residents, cardiothoracic surgery fellows, and integrated cardiothoracic surgery residents from 2014 to 2024. Linear regression was used to assess trends in the number of graduating trainees and training pathways. Operative case volumes for general surgery residents and fellows were analyzed using regression models before and after 2020. Integrated resident operative experience was analyzed for the post-2020 period due to limited pre-pandemic sample size.

Results:

The number of graduating general surgery residents ($m = 44$, $p < 0.001$) and integrated cardiothoracic surgery residents ($m = 3$, $p < 0.001$) increased over the study period. Fellowship graduation numbers demonstrated no linear trend, though an increase from a mean of 98.4 graduates per year (2016–2020) to 109.8 per year (2021–2024) was observed. No decline in operative case volumes was identified following the onset of the COVID-19 pandemic. General surgery residents maintained stable thoracic and cardiac case exposure, with an increase in esophageal cases over time. Fellows and integrated residents demonstrated no significant reductions in major operative exposure in the post-pandemic period.

Conclusions:

Despite substantial disruptions to surgical care delivery during the COVID-19 pandemic, national ACGME case log data demonstrates stable operative exposure and graduation rates among cardiothoracic surgery trainees. These findings suggest resilience within cardiothoracic training programs during a period of unprecedented systemic stress.