

# Association Between Elective Surgery Cancellation and Pediatric Inguinal Hernia Complications

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## Background

- Inguinal Hernia (IH) is one of the most common operations performed by pediatric surgeons<sup>1</sup>
  - IH incarceration risk is 3 to 16% peaking in the 1<sup>st</sup> year of life<sup>2,3</sup>
  - Incarceration can lead to morbidity such as intestinal obstruction and gangrene leading to emergent operations<sup>4</sup>
- No consensus interval time between diagnosis and repair exists with surgeons operating earlier to avoid incarceration<sup>5</sup>
- Worsening of the SARS-CoV-2 restricted elective surgeries starting 3/13/2020 by Surgeon General mandate<sup>6</sup>
  - Unclear whether restriction had any consequences for children awaiting IH repair

## Research Objectives

**Determine whether restriction of elective surgeries following the Surgeon General mandate was associated with an increase in incarceration rates of pediatric IH**

## Methods

- Multi-institutional retrospective cohort study at 14 U.S. freestanding children's hospitals
- Included all patients ≤ 18 years of age who underwent IH repair between 9/13/2019 and 9/13/2020
- Excluded patients with concomitant orchiopexy or recurrent IH repair
- Compared incarceration rates pre-restriction (before 3/13/2020) and post-restriction (after 3/13/2020)
- Analysis done with Wilcoxon Rank Sum, X<sup>2</sup>, and multivariable clustered logistic regression

## Results

**1597 children underwent IH repair between 9/13/2019 and 9/13/2020**

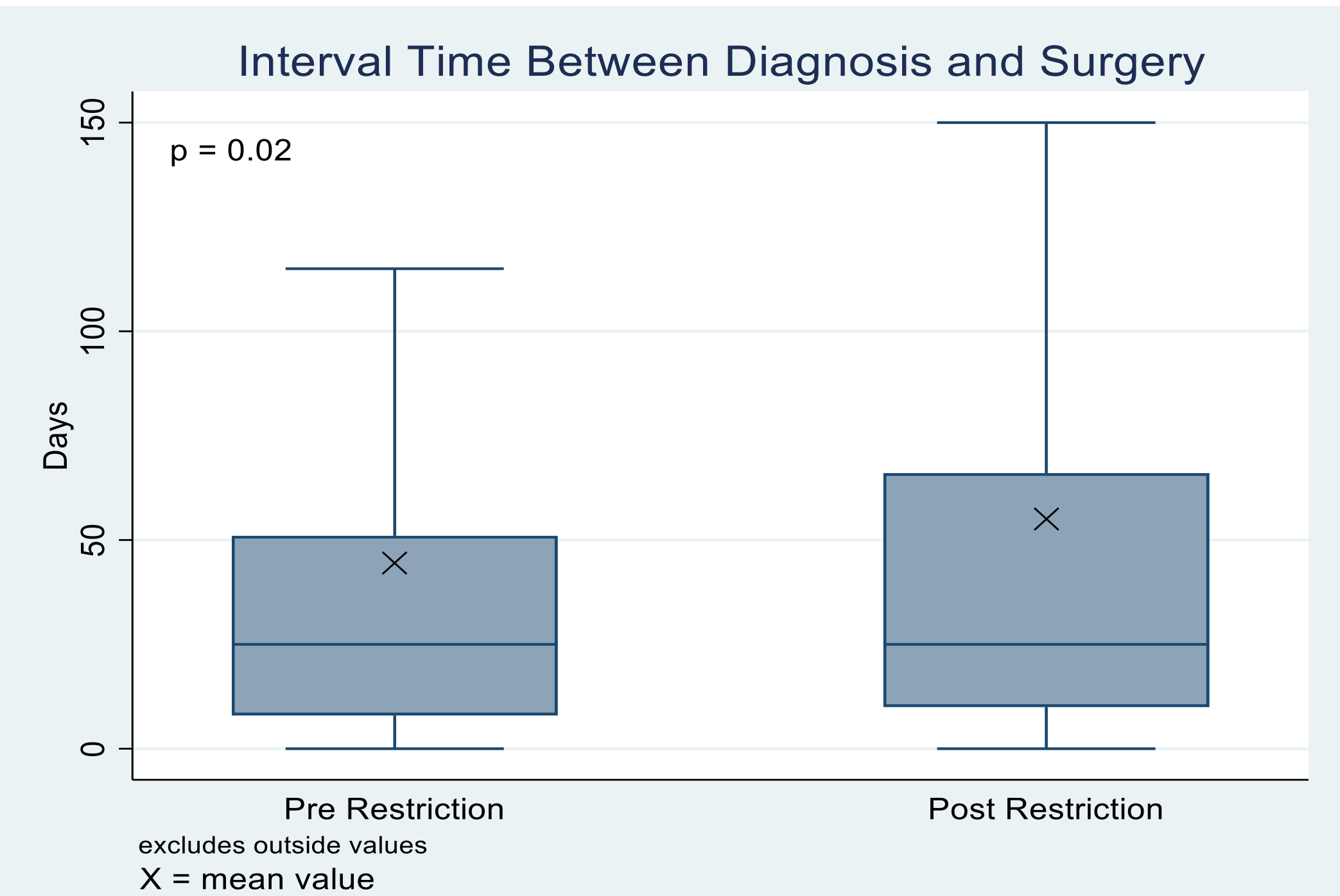
- 772 (48.3%) IH repaired post-restriction
- Cohort demographics similar pre- and post-restriction
- Incarceration rates similar between cohorts (pre-restriction 5.8% vs post-restriction 7.6%, p = 0.15) on univariate analysis

**Interval times between diagnosis and operation significantly longer in post-restriction period (Figure 1.)**

**Post-restriction not associated with an increase in incarceration rates on adjusted analysis (Figure 2.)**

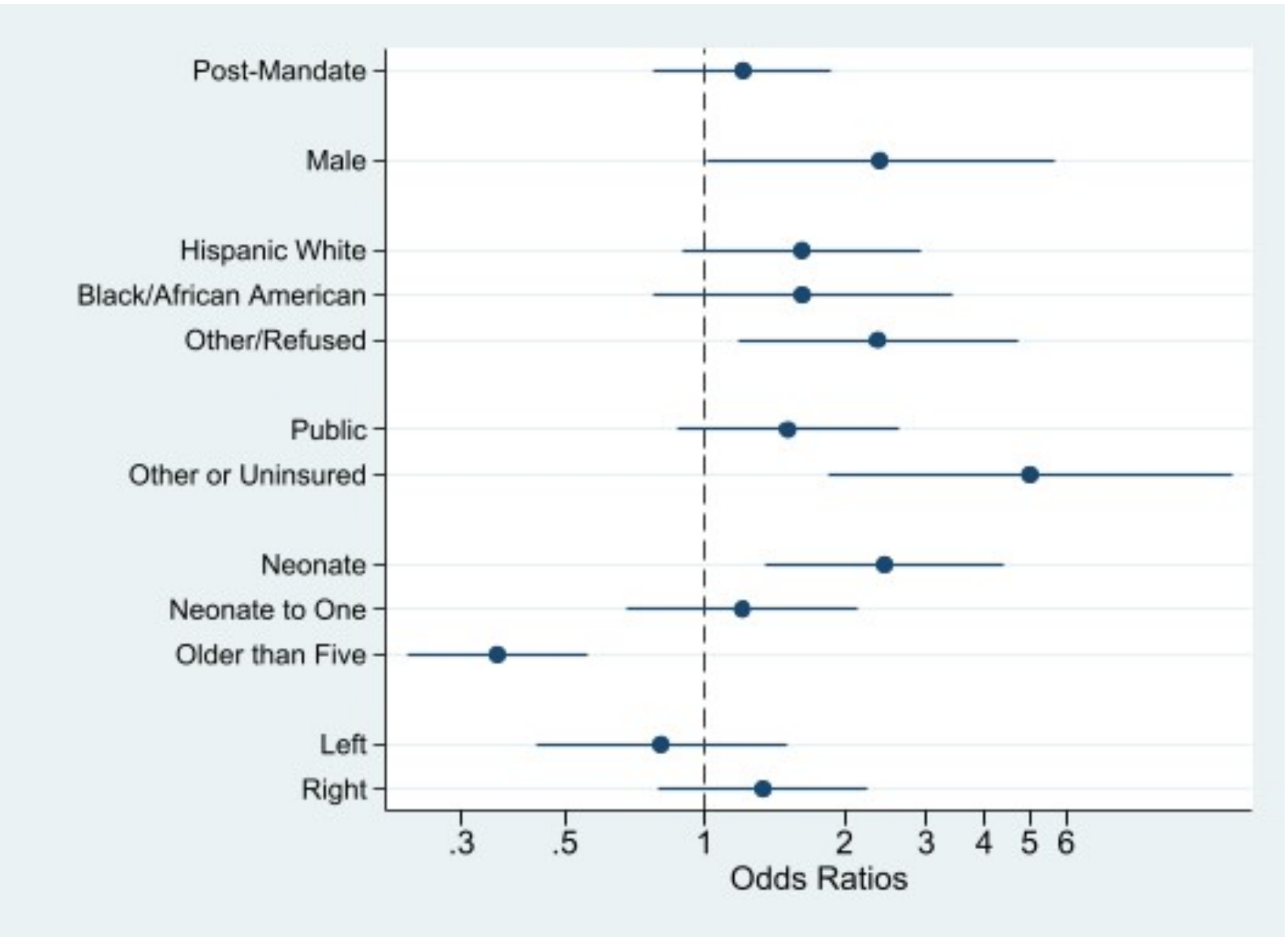
- Males, neonatal age at diagnosis, other non-white races, other insurance/uninsured were patient characteristics associated with incarceration

Figure 1. Interval Time Between Diagnosis and Inguinal Hernia Repair



**Post-Restriction saw longer interval times between diagnosis and inguinal hernia repair**

Figure 2. Adjusted Odds of Incarceration in Patients Receiving IH Repair



## Limitations

- Retrospective data
- Potentially misses children that were diagnosed with IH but not repaired
- Did not include epicenters of SARS-CoV-2 (e.g., New York)

## Conclusions

**Elective surgery restriction due to SARS-CoV-2 was not associated with an increase in IH incarceration in children**

## References

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