

Robotics will overcome Bariatric Surgery

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DISCLOSURES

Consultant- Intuitive

Consultant- Medtronic

Speaker- Conmed.



Robotics

- ◆ Gimmick
- ◆ I am the best lap surgeon in the world
- ◆ How do I Know
- ◆ Just ask me and I will tell you.

Cost

- ◆ Mental Gymnastics must stop.
- ◆ Upfront cost of Robotics is higher.
- ◆ If you amortize cost of robot over procedures it adds expense incurred to the procedure.

Cost

- ◆ Price is nuanced.
- ◆ Has to be balanced over value added.
- ◆ Have asked myself the question if the Robot adds value to my practice.

Cost

- ◆ Elimination of Surgical Assistant.
- ◆ Appropriate procedure being considered.
- ◆ Staging of procedures.
- ◆ Surgery available locally

Is Robotic Surgery Innovation

- ◆ Is there a need in our field
- ◆ Is the status quo ok?
- ◆ Is there room for quality improvement in our field

Robotics in Bariatrics

- ◆ Rapidly Growing Bariatric/Gen Surgery Market
- ◆ Expensive
- ◆ Steep Learning Curve.
- ◆ Redundant
- ◆ Slower ??

SADI-S #152

Aug 20, 2025 07:46AM dV 5 with Gabriel
Gaweda

Multi-surgeon

Teaching

Not authorized to view video

32 min

Console time

29 min

Instruments active



Case details



SADI-S #63

Dec 6, 2023 03:37PM Xi

Multi-surgeon

Dual Console

Add characteristics

24 min

Console time

21 min

Instruments active

Robotics in Bariatrics

- ◆ Surgeons are masochists.
- ◆ Benefit is for the Surgeon.
- ◆ Laparoscopy is an unnatural transitional platform.
- ◆ New generation of Surgeons.
- ◆ Democratization of the procedure.
- ◆ Safer for the patient

Devil is in the detail

- ◆ Added Value of Robotics is different for different Surgeons and practices
- ◆ Training environment and case mix during residency and fellowship matters
- ◆ Every Generation is the greatest generation yet.
- ◆ Robotics will become part of the infrastructure

Cost of making an iphone

- ◆ 500 Dollars
- ◆ R&D Cost
- ◆ Market determines what the product can be priced at
- ◆ Competition hopefully will reduce cost of Robotics.
- ◆ Robotics companies will have to evolve or perish.

Market Leader in Robotic Surgery

- ◆ Reaping benefits of being first movers
- ◆ Significant investment in R&D
- ◆ Significant investment in marketing and education
- ◆ Created a market segment where none existed
- ◆ Had missteps in communication style with expert surgeons
- ◆ But have learnt from it.
- ◆ Monopoly may not be bad.

Health care Expenses

Total CEO compensation in the last 10 years

- Cigna. \$365,959,592.
- UnitedHealth Group. \$349,470,281.
- Centene. \$322,619,510.
- CVS-Aetna. \$265,741,187.
- Humana. \$187,880,631.
- Anthem-WellPoint. \$166,515,815.
- Molina Healthcare. \$112,148,401.

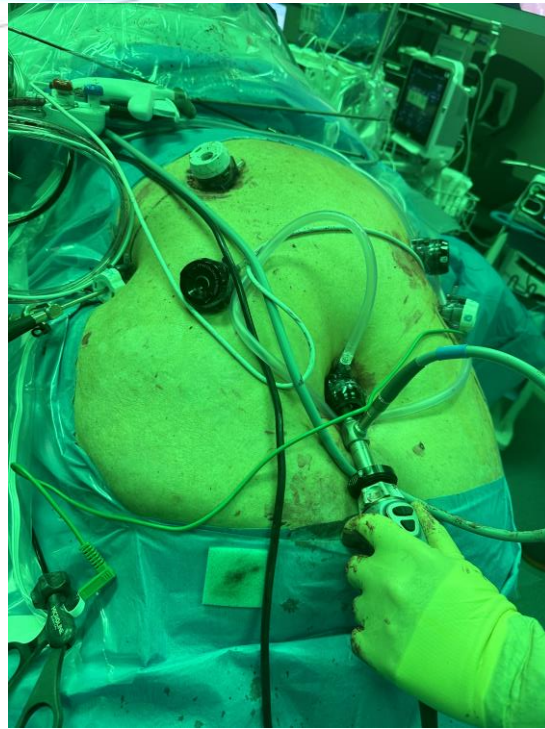
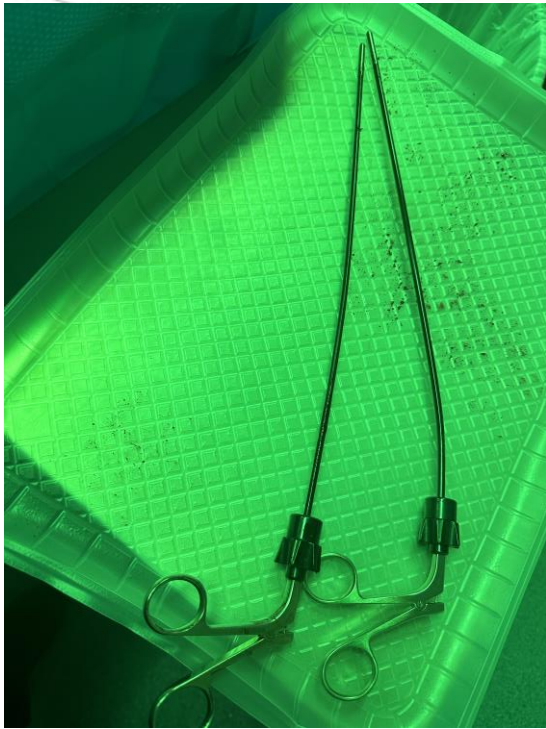
INSURANCE

Seven health insurance CEOs raked in a record \$283 million last year

Advantages of Robotics for me

- ◆ Number of complex cases a day
- ◆ No need for assistant in a complex case.
- ◆ Highest male BMI primary Duodenal switch- 104
- ◆ Highest male BMI Primary sleeve-107
- ◆ Routine Switch Console time- 60 mins, fastest- 50 mins,
Routine SADI - 45 mins, fastest- 35 mins.

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REF 9790

Cardinal Health
Kendall
Kendall SCD Express Sleeves
free Length - X-Large

CE
1100000000

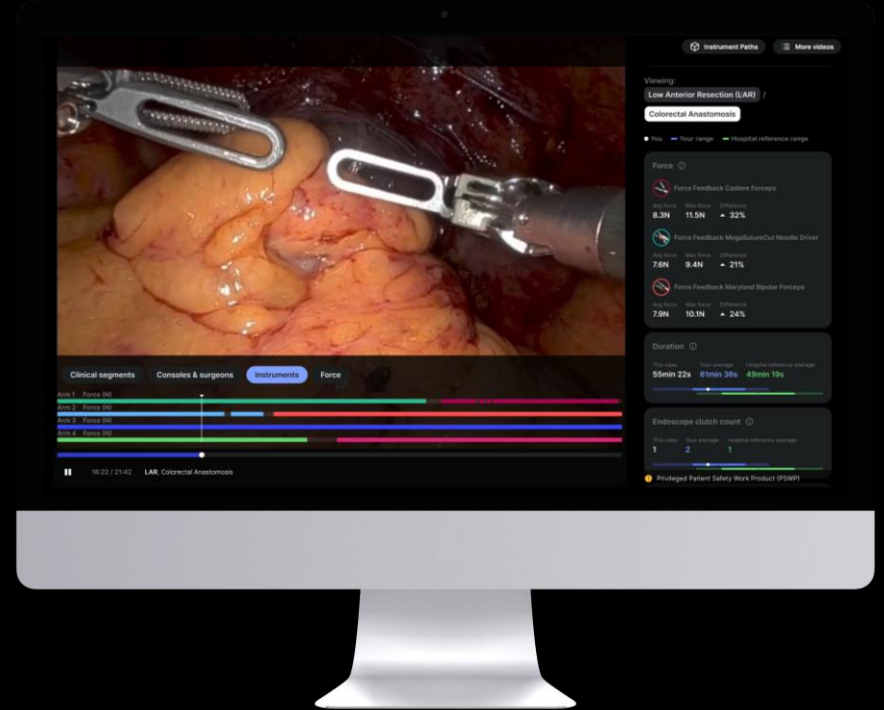
What excites me the most about Robotics

- ◆ It is computer assisted surgery

Case Insights extracts objective insights from surgery to help surgeons elevate their skills and improve patient outcomes^{1,2}

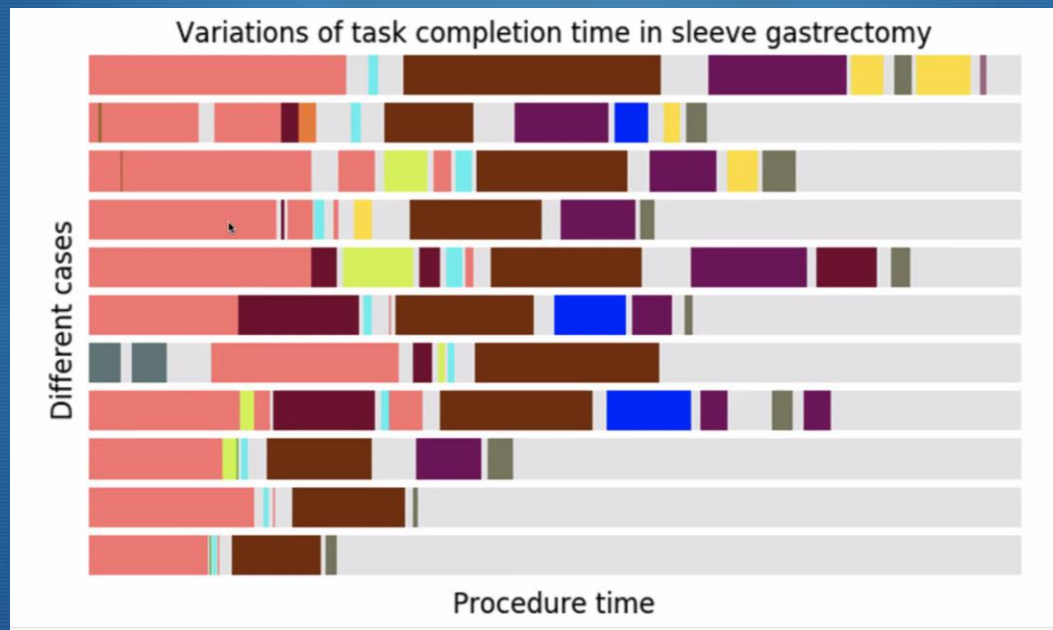
Improved teaching and technical skills³

Improved quality and outcomes^{1,2}

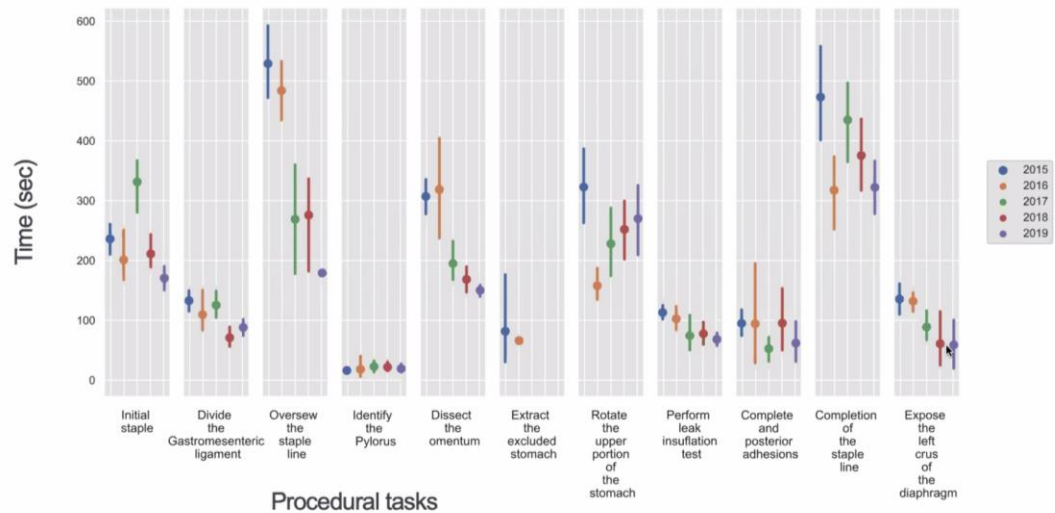


Purchase of a da Vinci S includes a one-year subscription to Case Insights.
Fang, J. et al. Mining Machine Learning and Automated Performance Metrics to Evaluate Robot-Assisted Bariatric Procedures and Predict Outcomes. JGIM. 2018;33(5):438-444.
Chen, Y. et al. Systemic analysis of the effectiveness of robotic-assisted laparoscopic surgery. JAMA. 2012;307(10):1095-1102.
Guzman, JM, et al. Active surveillance in colorectal performance metrics for bariatric procedures in robotic surgery. J Robot Surg. 2021;5(4):175-177-1712.

Algorithms to Identify Workflow Variability



Digitally Produced Task Based Insights



Robotic Sleeve Gastrectomy
Mark Tousignant, MD, FACS



Kinematics: Robotic Objective Performance Indicators

Completion time

Camera activation count

Camera control duration

Camera distance traveled

Instrument distances and trajectories

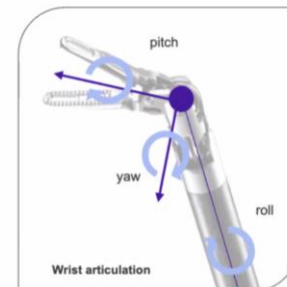
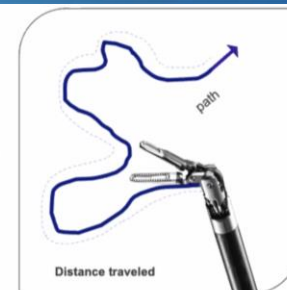
Movement speeds

Third arm swap count

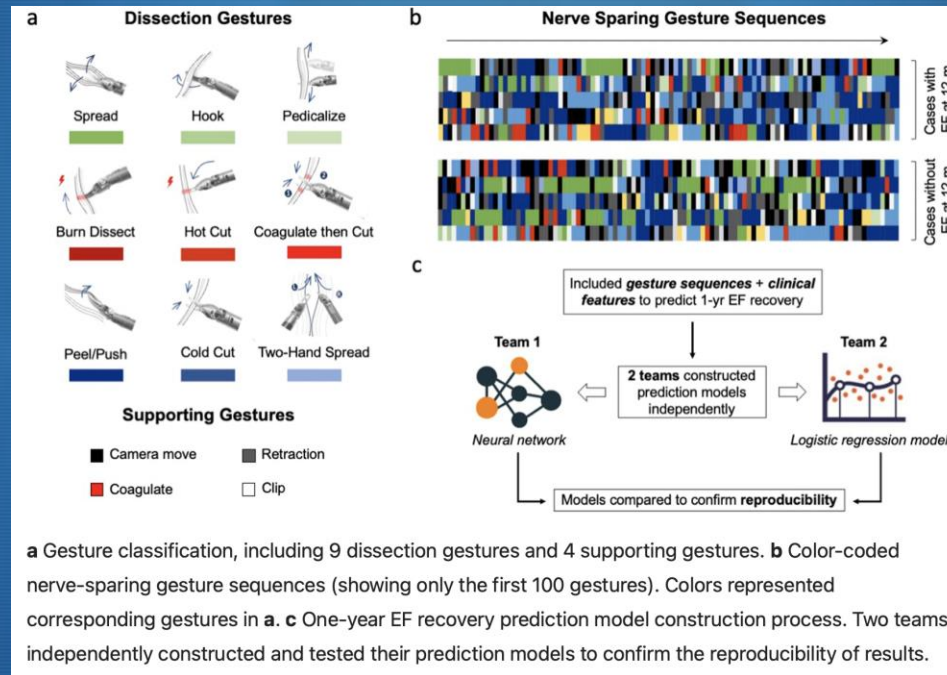
Ratio of dominant / non-dominant arm use

Wrist articulation

Instrument idle time

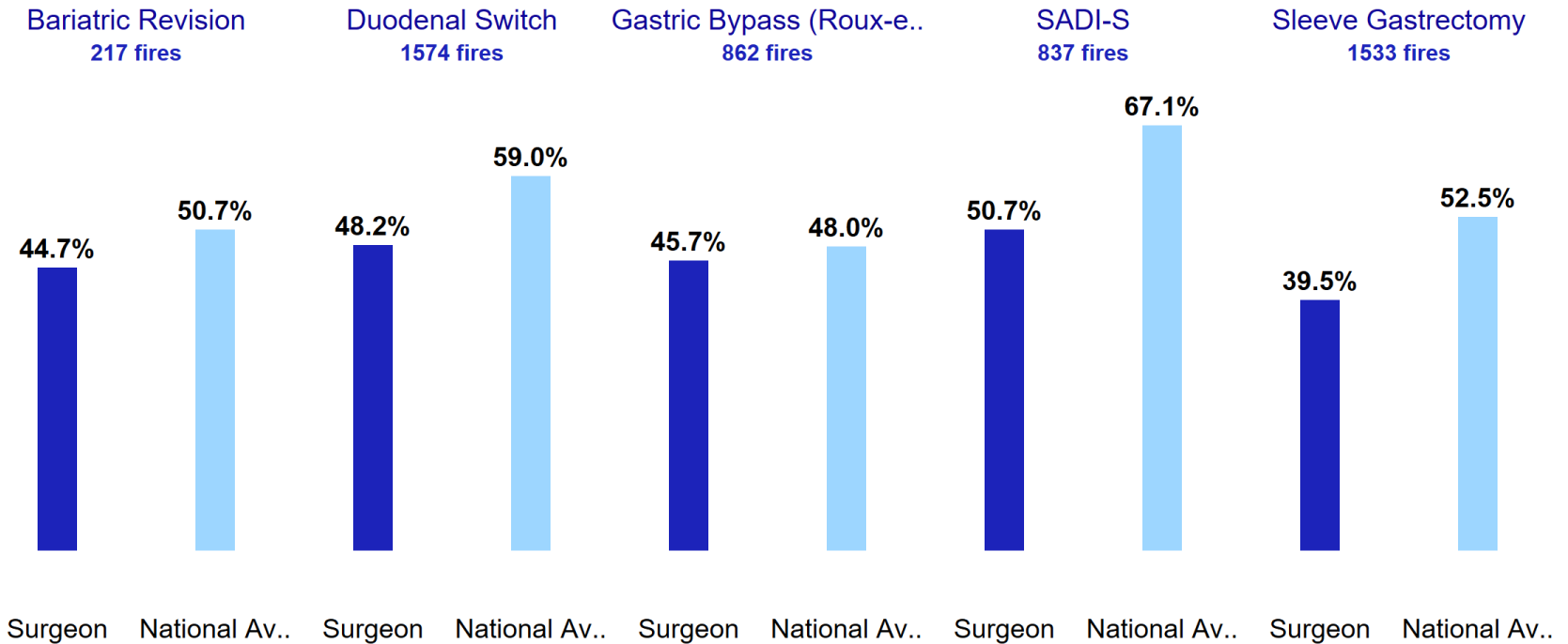


Kinematics: Robotic Gestures



Percent of SureForm Fires with at least 1 Pause

Dr. Rana C. Pullatt



This data comparison is not case matched for patient complexity and/or disease status. The data have not been peer-reviewed and have not been published. Use of any laparoscopic instruments during the case and the complexity of the case cannot be inferred from the system logs. **This data can only be shared with Dr. Rana C. Pullatt, unless written consent is provided.** Includes data from 10/17/2018 through 10/2/2024.

INTUITIVE

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PN1090358-US RevA 12/2021



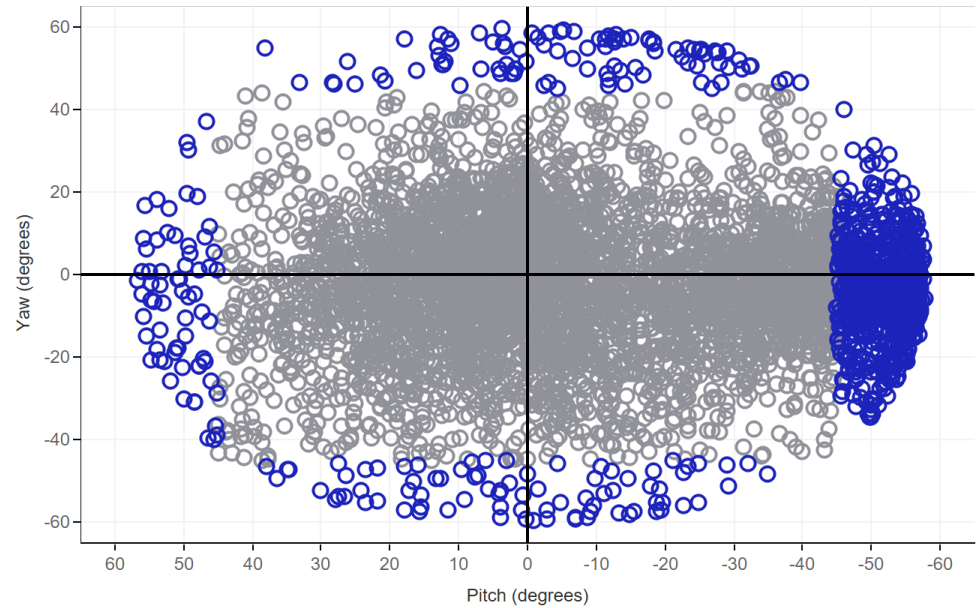
SureForm Articulation Angles at Fire

Dr. Rana C. Pullatt

Number of Procedures	649
Fires	5,023
% of Cases Beyond 45 Degrees	66%
% of Fires Beyond 45 Degrees	17%

SureForm fires with horizontal or vertical angle above 45 degrees were counted to represent fires that utilize the range of motion not supported by listed laparoscopic staplers*, but are offered in SureForm staplers*. In addition, listed laparoscopic staplers* currently only have **yaw** articulation and do not provide **pitch**.

SureForm Angle
■ Beyond 45 degree
■ Within 45 degree



This graph represents a SureForm stapler with the anvil up (yaw positive is up, yaw negative is down; pitch positive is left, pitch negative is right), with us looking down the back end of the instrument, going into the body.

This data comparison is not case matched for patient complexity and/or disease status. The data have not been peer-reviewed and have not been published. Use of any laparoscopic instruments during the case and the complexity of the case cannot be inferred from the system logs. **This data can only be shared with Dr. Rana C. Pullatt, unless written consent is provided.** Includes data from 10/17/2018 through 10/2/2024. *Compared to Endo GIA Ultra with Tri-Staple technology, SIGNIA with Tri-Staple 2.0 technology, and Powered Echelon Flex with GST as of March 2019.

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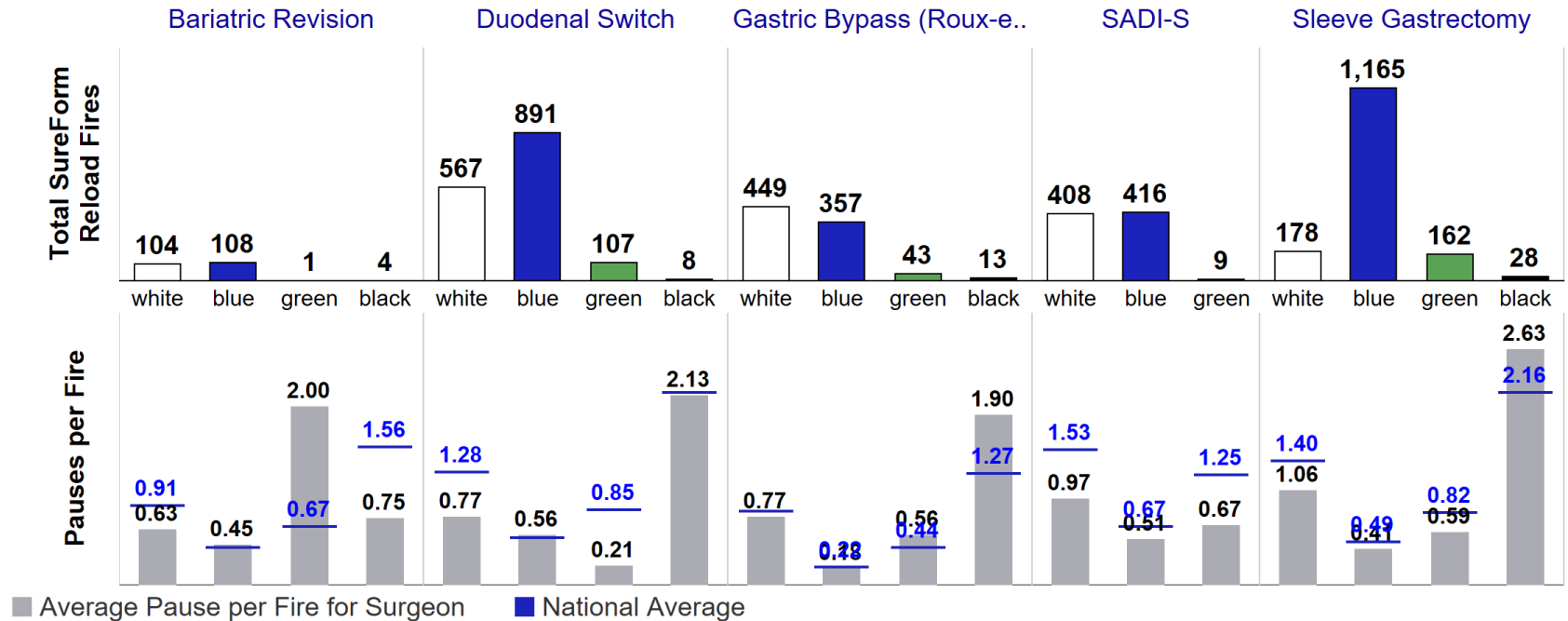
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SureForm Reload Color Pauses per Fire

Rana C. Pullatt

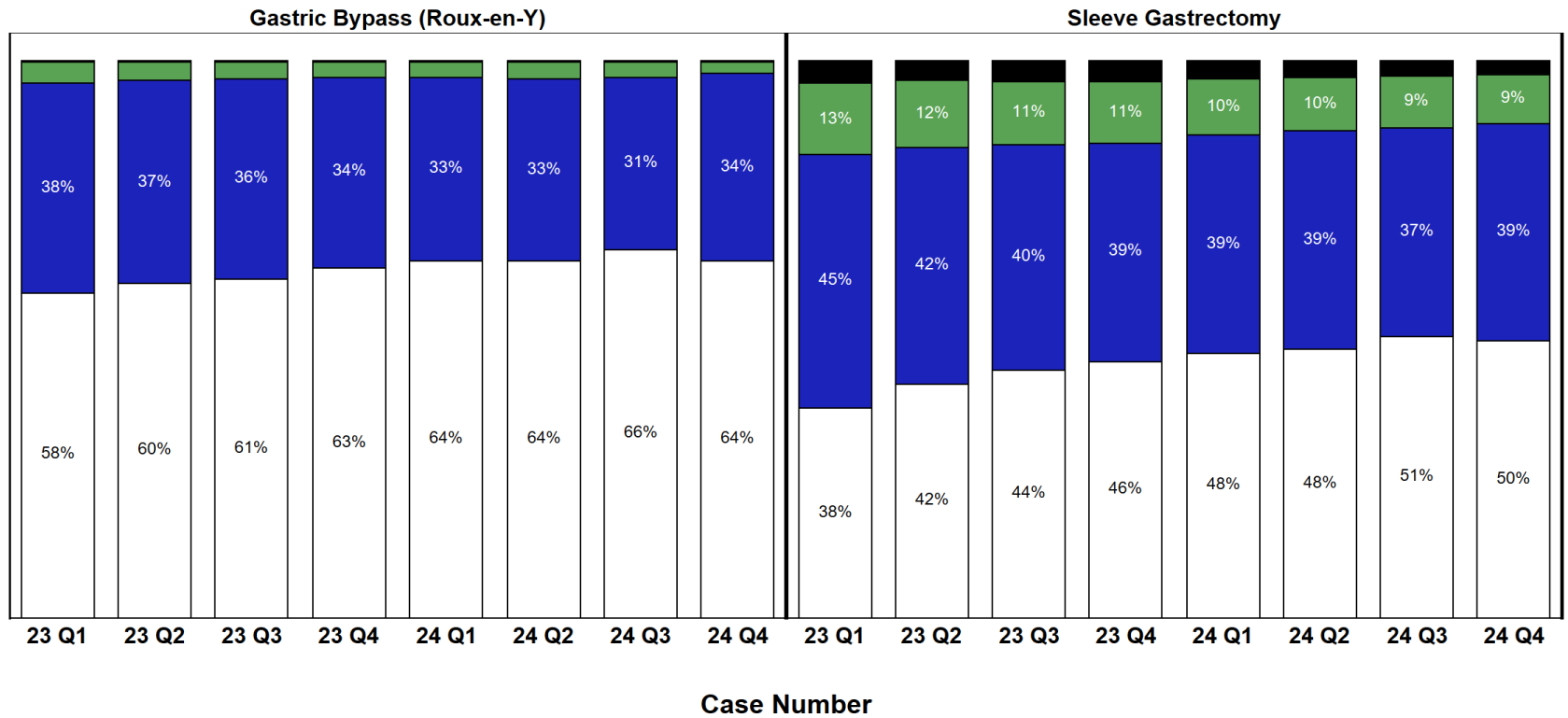


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US da Vinci Bariatric Reload Selection

National Data



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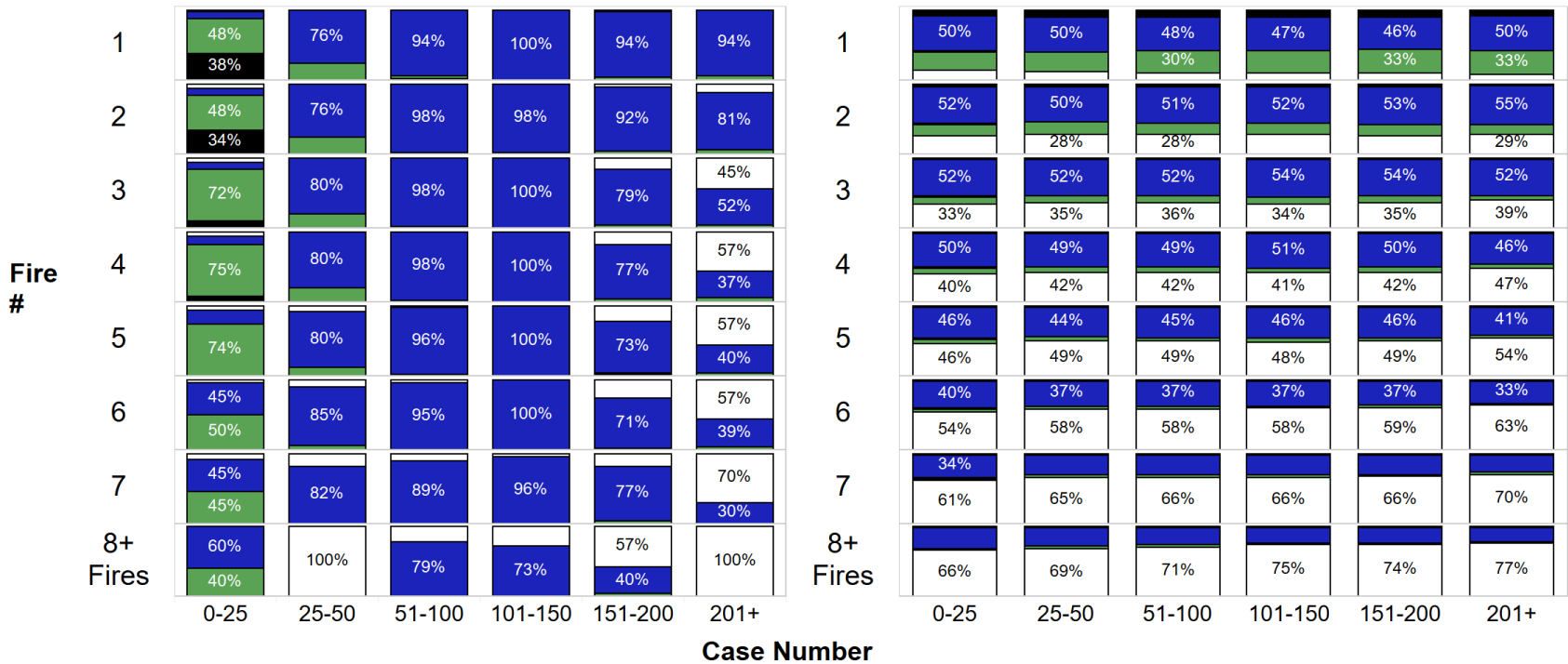


SureForm Reload Color per Fire for Sleeve Gastrectomy

Rana C. Pullatt

Surgeon Average

National Average

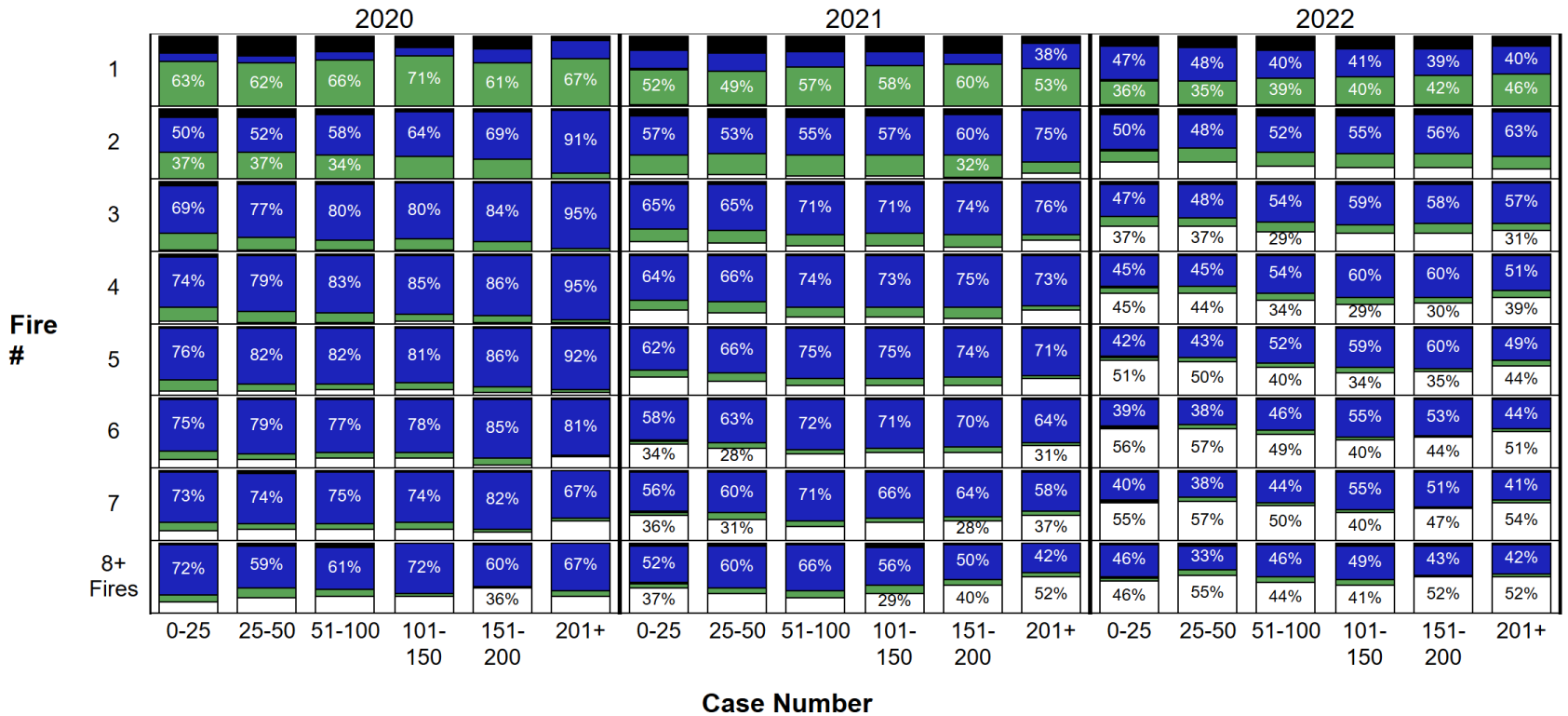


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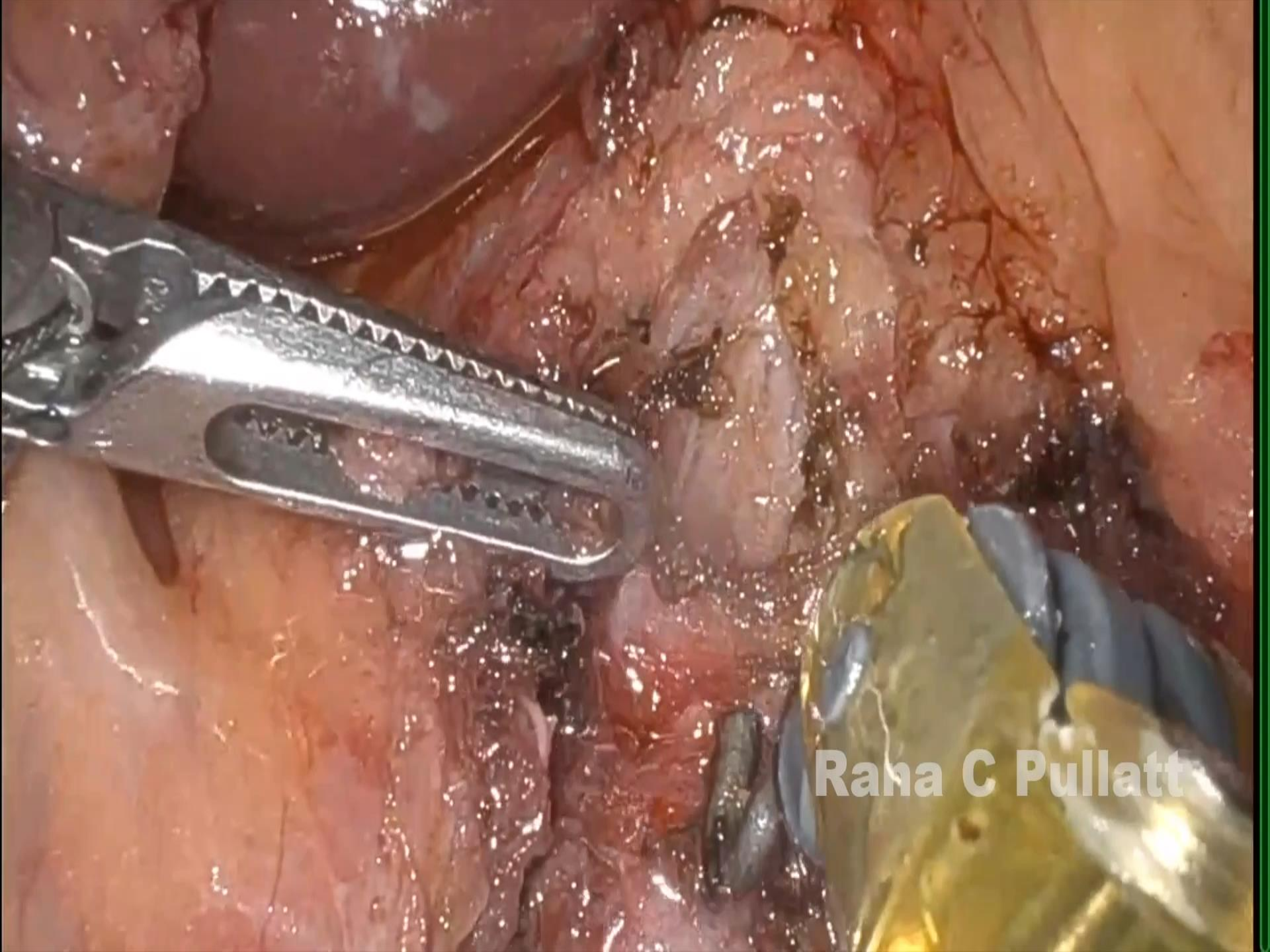
SureForm Reload Color Pauses per Fire for Sleeve Gastrectomy

National Data Trends Over Time



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Rana C Pullatt

Manfred von Richthofen



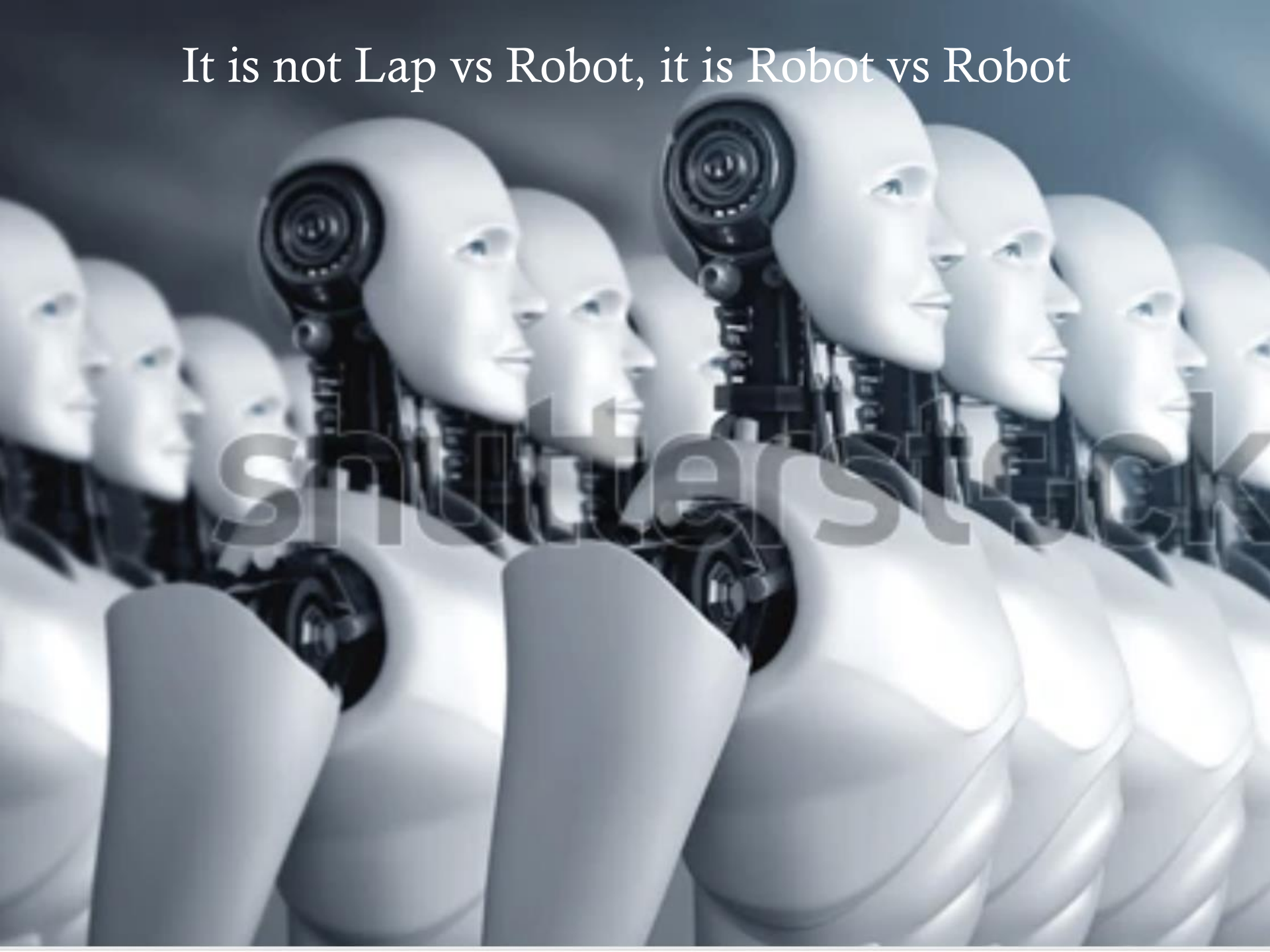
Without ABS

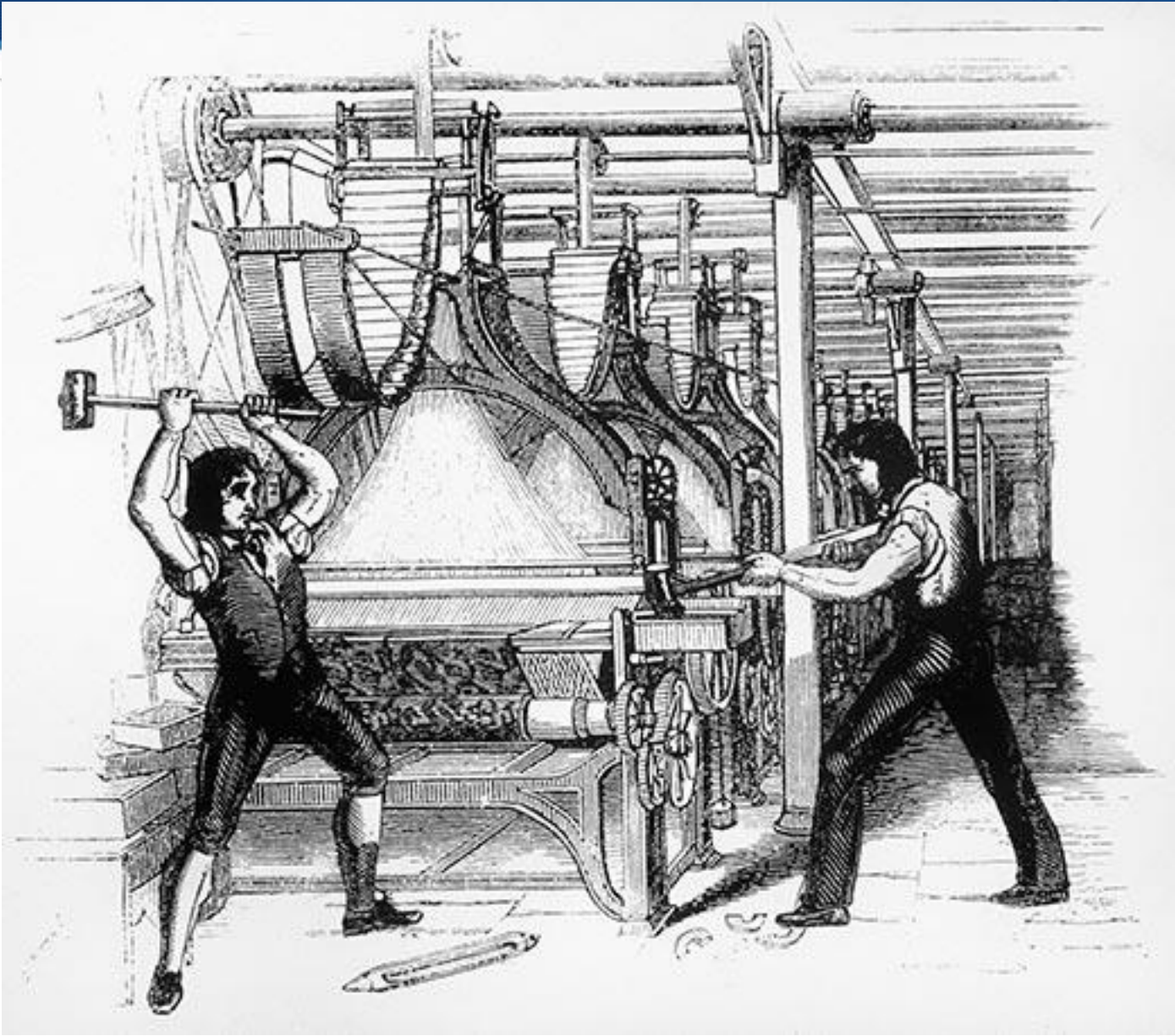


With ABS



It is not Lap vs Robot, it is Robot vs Robot







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"NO ONE LEFT BEHIND"

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Thank You

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