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ROBOTIC CASE TIME - ASSESSING THE IMPACT OF TRAINEE PARTICIPATION AT THE CONSOLE

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Introduction:

Given the dual concerns that trainee participation in the operating room comes at the cost of longer cases times and that the robotic platform can lengthen cases, we sought to determine if trainee participation impacted total robotic case time.

Methodology:

Using deidentified data from the MyIntuitive application, we conducted a retrospective cohort study of robot case times for three categories of procedures: bariatric, inguinal hernia repair (IHR) and ventral hernia repair (VHR) at our institution. Data from 2019-2021 were selected as 2019 is when dual consoles were routinely available to track the participation of more than one surgeon. Any cases where the second console was used for >1% of the case was characterized as having trainee participation, while those cases with <1% were categorized as solo cases. Average case times were then calculated by procedure, per year, based on trainee participation. Differences in average case time were compared using t-tests and Mann-Whitney U tests as appropriate.

Table. Average Case Time (minutes)

Based on Type of Operation and Absence or Presence of Training During Each Year of Study

	Bariatric			Inguinal Hernia Repair (IHR)			Ventral Hernia Repair (VHR)		
	Solo Cases	Cases with Trainees	p-value	Solo Cases	Cases with Trainees	p-value	Solo Cases	Cases with Trainees	p-value
2019	67.5	57.2	0.14	85.5	86.5	>0.3	185	206.8	0.298
2020	48.6	86.4	<0.001	79.8	86.1	>0.3	237	166.1	<0.001
2021	57.9	60.3	>0.3	71.8	68.5	>0.3	141.3	174.1	>0.3
Overall	60.4	67.3	0.076	81.2	75.8	0.004	205.0	178.6	0.032

Results: 1160 robot cases were included in the study, the majority of which included trainees (n = 686, 59.1%). 24.5% of cases were bariatric, 39.3% IHR, and 36.2% VHR.

- Trainee involvement increased annually:
  - Bariatric trainee participation increased from 51.5% to 70.0% to 75.2% in 2021.
  - IHR trainee participation increased from 18.7% to 22.6% to 75.0% in 2021
  - VHR trainee participation increased from 63.7% to 74.8% to 96.3% in 2021
- Average operative is shown in the table. Overall, operative time decreased with trainee involvement in VHR and IHR cases, -26.6 and -6 minutes respectively, while changes for bariatric surgery were only significant during a single year.

Conclusion: Trainee participation was associated with shorter operative time for IHR and VHR. While limited by sample size and selection bias, these results suggest that **trainee participation does not significantly impact robotic case time.**

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