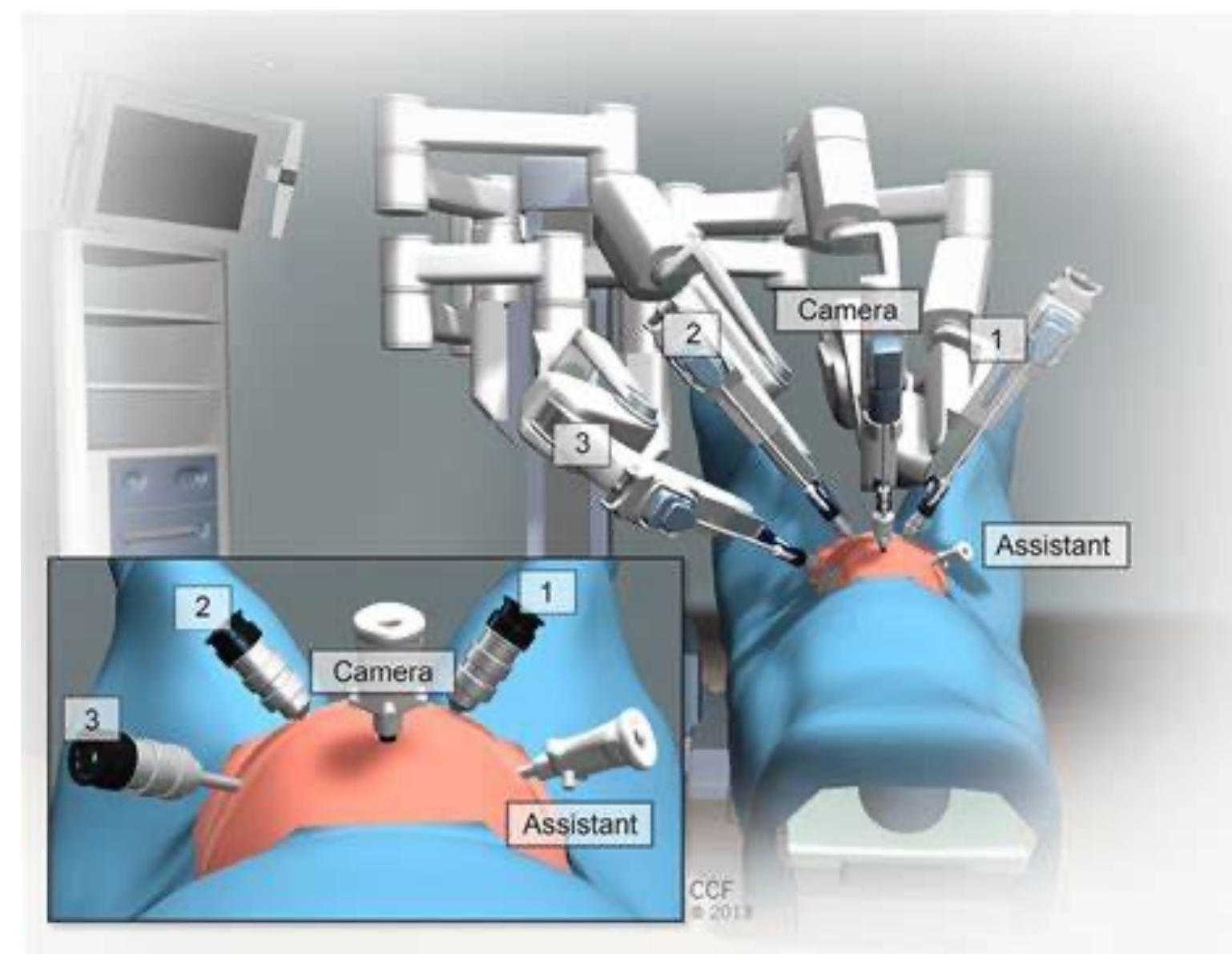


Introduction

Robotic surgery provides higher magnification, better visualization, and wider range of motion in comparison to traditional laparoscopic instruments.

Additionally, patient satisfaction has also improved as trocar incisions can measure less than 10 mm; this, in combination with reduced torsion at trocar sites due to 360-degree range of motion at the terminal end, reduces post-operative pain and improves cosmetic appearance.

Assistant port sites, used for retraction, suctioning, sutures, specimen removal, etc., ranges between 5-15 mm. Although all assistant port-sites <10 mm are closed at the skin level only, we have found that physicians are variable on the decision of fascial closure of 10/12 mm assistant port-sites.



Objective

This study aims to assess whether physicians under different departments differ in their decision to close the 10/12 mm assistant port-site incisions. Given that port-site herniation is a recognized complication following robotic-assistant procedures, differences in closure will further be assessed for the relationship between port-site incision fascial closure and the rate of port-site hernias after a robotic-assisted surgery. The assumption is that fascial closure correlates with a lower incidence of postoperative port-site hernias.

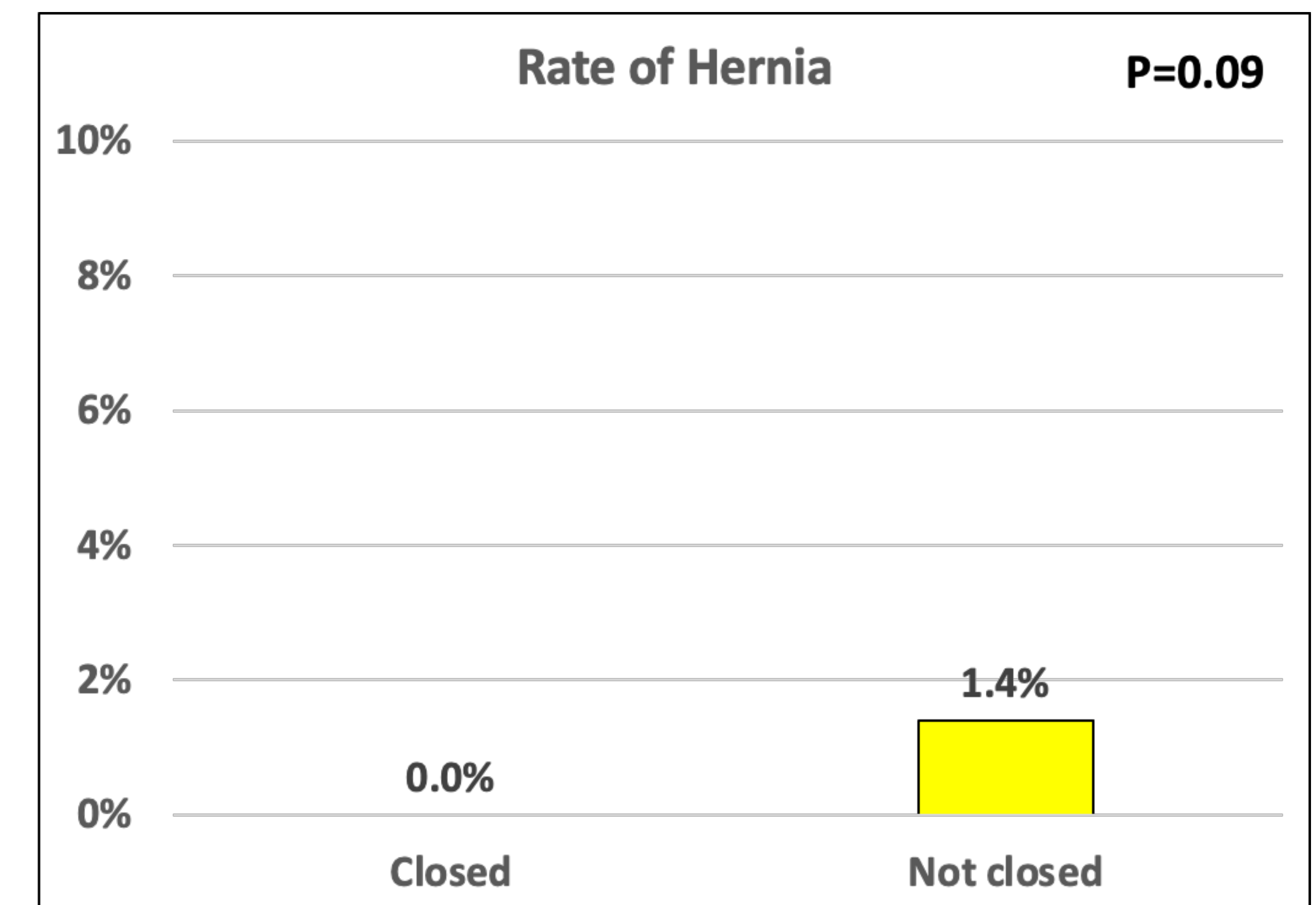
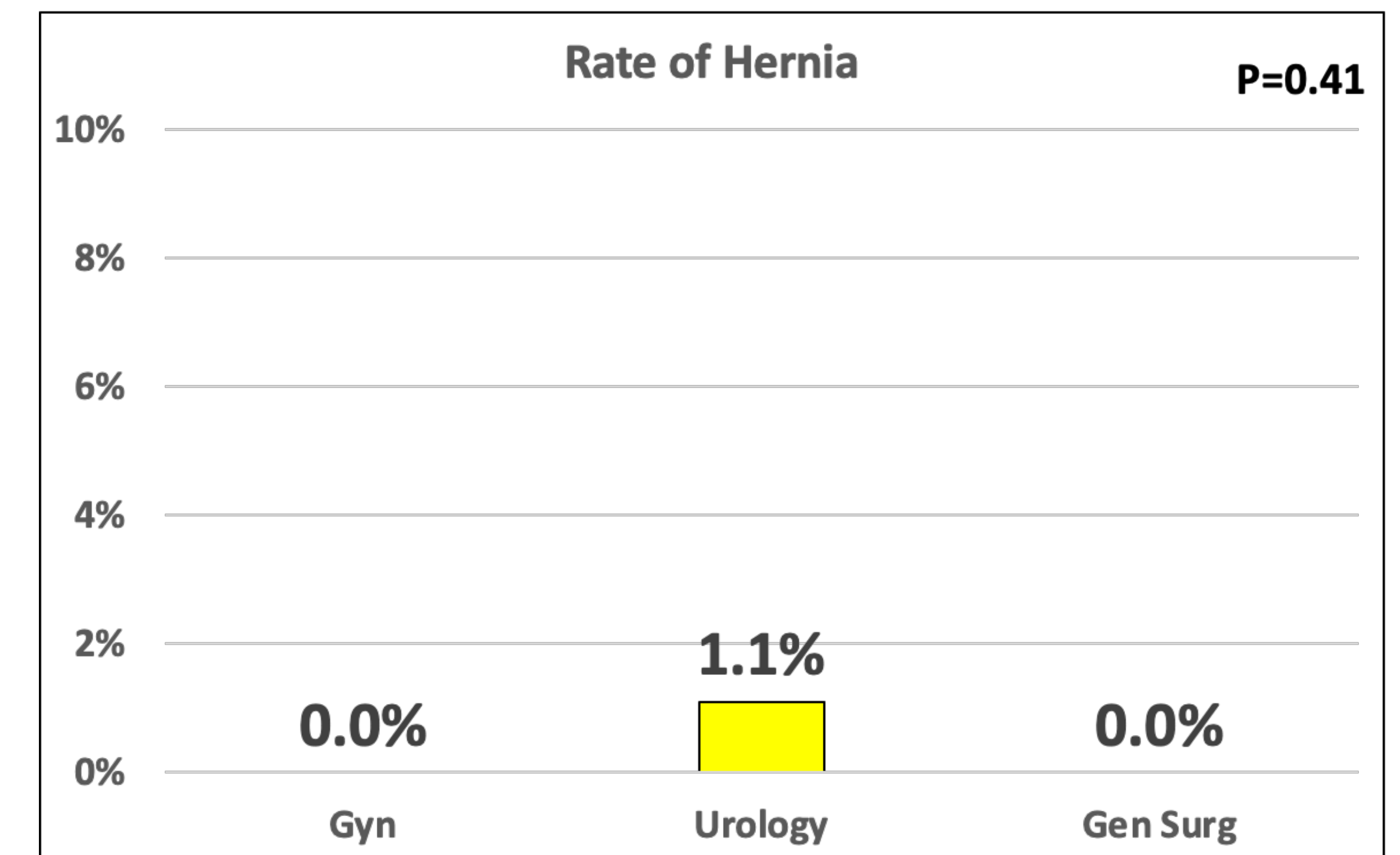
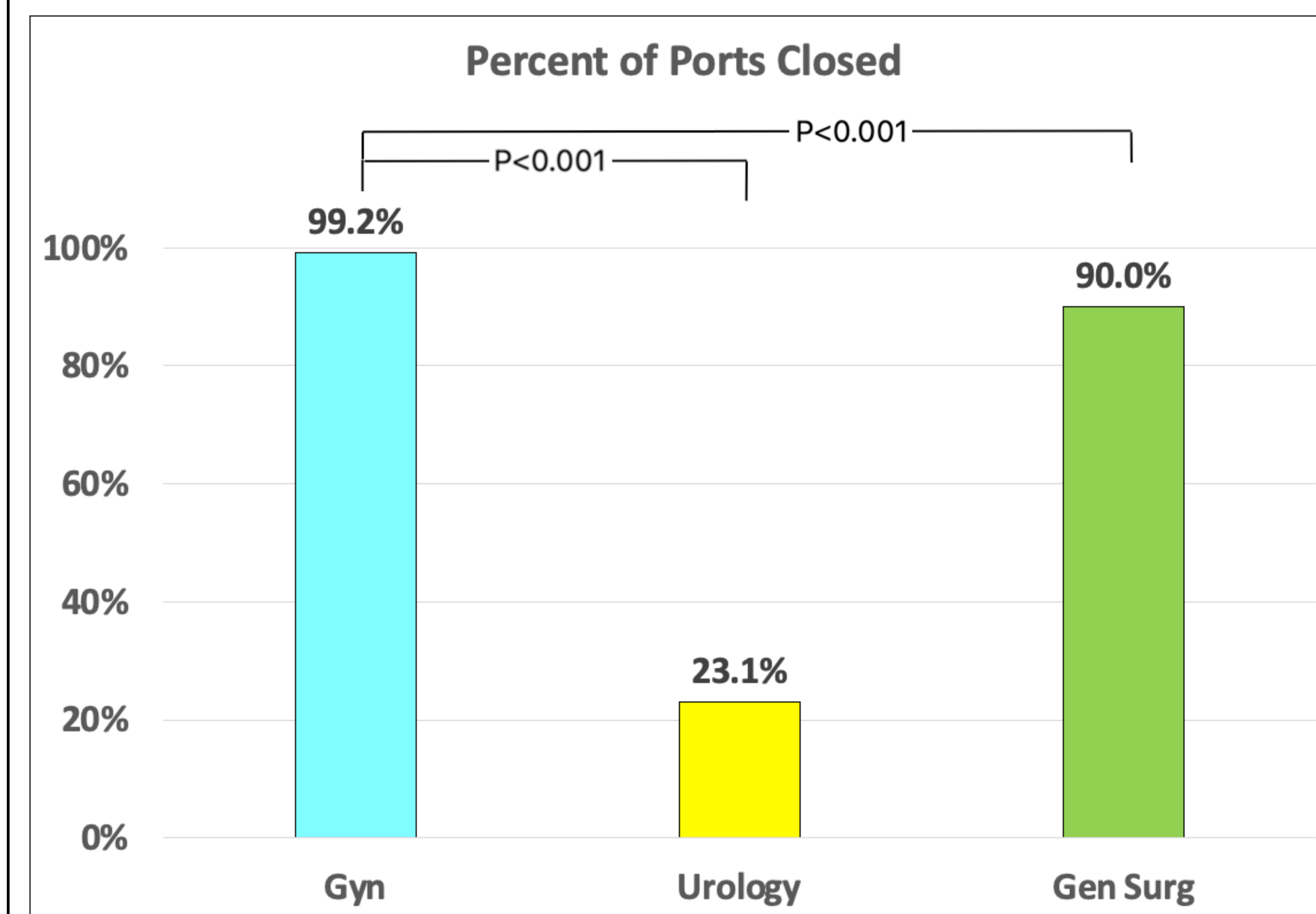
Method

Retrospective chart review of patients undergoing robotic surgery by gynecologists, urologists, and general surgeons in which a 10/12 mm assistant port was used. The sample population comprised of patients from the gynecology, urology, and general surgery services at the University of Colorado who underwent a robot-assisted surgical procedure between 2016 and 2019, with or without incision fascial closure of the assistant port site.

Port-site herniation, defined as a documented palpable hernia on physical exam, was identified through chart review within the UCHealth system. All data were collected and entered into REDCap. Statistical analysis was performed using analysis of variance (ANOVA) to compare the proportion of assistant port-site fascial closure, the rate of assistant port-site herniation, and patient demographics (age, sex, BMI, and ethnicity) between gynecology, urology, and general surgery. An unpaired t-test was used to compare the rate of assistant port-site herniation between patients with and without port-site fascial closure. $P < 0.05$ was considered significant.

Results

	Gyn n=129 (24.9%)	Urology n=360 (69.4%)	General surgery n=30 (5.8%)
Female sex	100%	21.1%	43.3%
Age, years	56 (27-80)	63 (16-80)	57 (36-72)
BMI (kg/m ²)	28 (5.4-63.2)	27 (17.7-57.6)	29 (19.6-45.1)
<18.5	2.3%	1.1%	0%
18.5-24.9	27.1%	27.5%	26.7%
25-29.9	35.7%	40.6%	26.7%
≥30	34.9%	30.8%	46.7%
Hispanic ethnicity	12.4%	6.9%	6.7%
White race	82.9%	78.6%	80.0%



Conclusion/Implication

Gynecologists were more likely than urologists and general surgeons to suture close a 10/12 mm fascial assistant port. Hernia rates for the robotic assistant port were low overall at 0.8% and not impacted by the decision of whether or not to close the fascial port. In light of these findings, routine fascial closure of 10/12 mm assistant port-sites is unlikely to significantly prevent post-operative port-site herniation and should be a patient-centered decision.

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