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THE SENHANCE SURGICAL SYSTEM IN COLORECTAL SURGERY: A SYSTEMATIC REVIEW

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Background

The Senhance Surgical System (North Carolina, USA) was approved by the FDA in 2017 allows for infrared eye tracking, haptic feedback, and an adjustable upright seat to improve ergonomics[1]



This systematic review aimed to review the current literature pertaining to the use of the Senhance Surgical System in colorectal surgery

Methods

Systematic review according to PRISMA[2]

Searched:
- Medline
- Embase
- CENTRAL

Inclusion:
- Adult patients
- Colorectal Surgery using the Senhance Surgical System

Outcomes: operative time, docking time, EBL, conversion

DerSimonian and Laird random effects meta-analysis of proportions

Results

6 observational studies
223 patients
Most common disease: CRC (81%)
Most common OR: AR (32%)

OR time: 230 mins (95%CI 189-270)
Console time: 141 mins (95%CI 107-176)
Docking: 11 mins (95%CI 6-15)

EBL: 37 mL (95%CI 25-49)

6 conversions to laparoscopy (2.7%)
3 conversions to open (1.3%)

Conclusion

The Senhance Surgical System has an acceptable safety profile, reasonable docking and console times, and low conversion rates across a variety of colorectal surgeries



Limitations: single-armed observational data, small number of included studies, risk of bias

Prospective, comparative trials with other robotic surgical platforms are warranted

[1]Peters et al. Surg Endosc. 2018; [2]Moher et al. Ann Intern Med. 2009