

## Brazilian contributions to the advancement of laparoscopic surgery: an analysis of the evidence

Dhiego Alves de Lacerda<sup>1</sup>  
Larissa Luana Lopes Lima<sup>1</sup>  
Pedro Fechine Honorato<sup>1</sup>  
Renata Braga Vale<sup>1</sup>  
Diego Formiga das Neves<sup>1</sup>  
Claudenor Pinho de Sá Filho<sup>1</sup>  
Thiago Quirino de Moura<sup>1</sup>  
Vinícius Costa Figueiredo<sup>1</sup>  
Anaylle Vieira Lacerda de Oliveira<sup>1</sup>  
Ubiraidys de Andrade Isidório<sup>2</sup>



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### 1 INTRODUCTION

Laparoscopic surgery has been a revolution in surgical practice worldwide, providing substantial benefits to patients, such as shorter recovery time, less postoperative pain, and reduced hospital stay. In the Brazilian context, marked by the diversity of clinical conditions and resource limitations, the adoption and advancement of laparoscopic surgery have been the target of intensive study and research.

Brazilian studies have contributed significantly to the body of evidence supporting the efficacy and safety of laparoscopic surgery. A systematic review conducted by Oliveira et al. (2022) showed that laparoscopy is a viable and safe alternative for the treatment of benign pathologies of the female reproductive system, such as endometriosis and ovarian cysts. In addition, studies such as the one by Silva et al. (2023) have highlighted the applicability of laparoscopic surgery in urological procedures, with favorable results in terms of recovery time and complication rates.

However, despite significant advances, challenges remain. The spread of laparoscopic surgery in Brazil still faces obstacles, including limited access to technologies and specialized training. These issues were discussed by Santos et al. (2019), who highlighted the need for investments in training of health professionals and hospital infrastructure to ensure the wide adoption and continued success of this surgical approach.

In view of this scenario, this review seeks to analyze the Brazilian contributions to the advancement of laparoscopic surgery, highlighting the main studies and evidence that have shaped surgical practice in the country and outlining the challenges and opportunities for the future.

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<sup>1</sup> Undergraduate student in Medicine, UNIFSM, Cajazeiras, PB.

<sup>2</sup> Graduated in Physical Therapy, Centro Universitário de João Pessoa, João Pessoa, PB

## 2 METHODS

The present review was conducted based on a systematic search in the SciELO and PubMed databases using the descriptors "laparoscopic surgery", "laparoscopy" and "Brazil". Studies published between 2010 and 2024 that addressed the application and results of laparoscopic surgery in Brazilian patients were included. Direct quotations were used to support the points discussed.

## 3 RESULTS

Brazilian studies have consistently demonstrated the benefits of laparoscopic surgery in several specialties. According to Almeida et al. (2023), laparoscopic surgery in cholecystectomies resulted in shorter hospital stays and lower complication rates compared to the conventional approach. Santos et al. (2018) showed favorable results of laparoscopy in complex gynecological surgeries, such as hysterectomies and oophorectomy.

Other studies, such as the one by Lima et al. (2022), highlighted the safety and efficacy of laparoscopic surgery in oncological procedures, such as the resection of gastrointestinal tumors. In addition, recent analyses by Oliveira et al. (2021) point to a significant reduction in hospital costs associated with laparoscopic surgery when compared to open surgery, reinforcing its potential positive economic impact.

## 4 DISCUSSION

The evidence presented corroborates international studies on the benefits of laparoscopic surgery. The ability of Brazilian surgeons to adapt and improve these techniques is also highlighted, as discussed by Oliveira et al. (2022). However, challenges such as the availability of adequate equipment and the training of professionals remain obstacles to be overcome.

## 5 CONCLUSION

The reviewed studies provide a solid basis for the continued adoption of laparoscopic surgery in Brazil. Investments in infrastructure and training are essential to further promote the dissemination and improvement of this technique.

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