# ENHANCING COMPETENCY IN BARIATRIC-METABOLIC SURGERY: THE IMPACT OF SIMULATION-BASED TRAINING ON SURGEON'S EXPERIENCE

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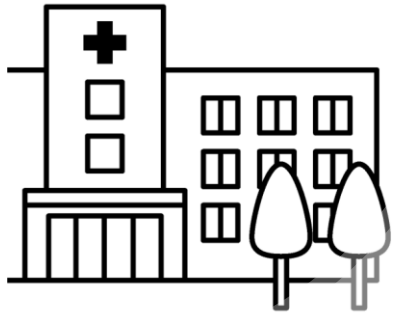
# BARIATRIC-METABOLIC SURGERY TRAINING



Hospital infrastructure

Surgical skills

Surgical Team

- More than 200,000 Roux-en-Y gastric bypass (RYGB) are performed annually.
- Laparoscopic RYGB (LRYGB): 50 to 150 cases to achieve a plateau of proficiency.
- Surgical simulation
  → Supervised directed learning of trainees
  → Full mastering of technical skills before actual practice on patients


Duran Espinoza V, Belmar Riveros F, Jarry Trujillo C, Gaete Dañobeitia MI, Montero Jaras I, Migueles Schilling M, et al. Five-Year Experience Training Surgeons with a Laparoscopic Simulation Training Program for Bariatric Surgery: a Quasi-experimental Design. Obes Surg [Internet]. 2023 Jun [cited 2024 Jun 24];33(6):1831–7. Available from: https://link.springer.com/10.1007/s11695-023-06616-0

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ORIGINAL CONTRIBUTIONS

# Five-Year Experience Training Surgeons with a Laparoscopic Simulation Training Program for Bariatric Surgery: a Quasi-experimental Design

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**LRGYB training program**

- 60 hours of hands-on training
- Manual gastrojejunostomy
- Stapled gastrojejunostomy
- Stapled jejunojejunostomy
- In-person feedback from expert instructors

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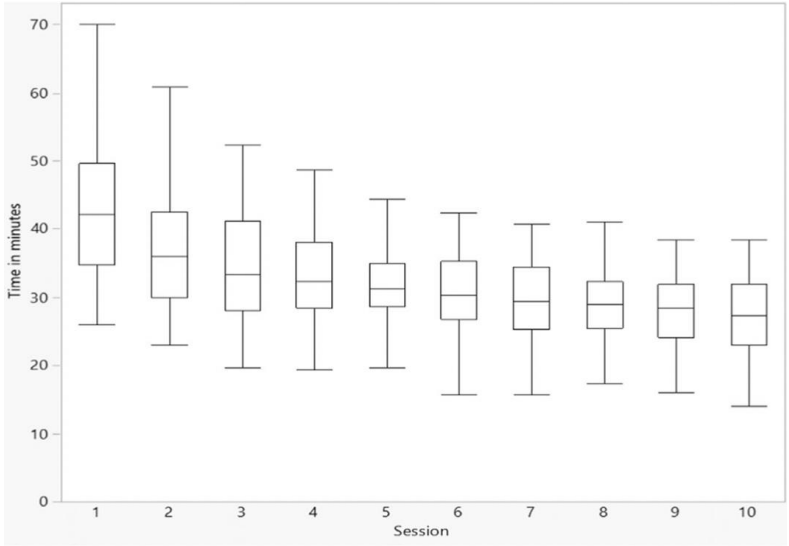
# What do we know so far?

The learning curve for LRYGB can be improved by 120 hours of laparoscopic training.

Learning curve based on time for manual gastrojejunostomy is built up to the 6th session.

Manual gastrojejunostomy and stapled jejunojejunoestomy skills improved after 10 and 4 training sessions.




Follow-up?

Skills Retention?

Clinical impact?

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# Follow-up study

2018 – 2023
110 trainees completed the training program

Post course online survey

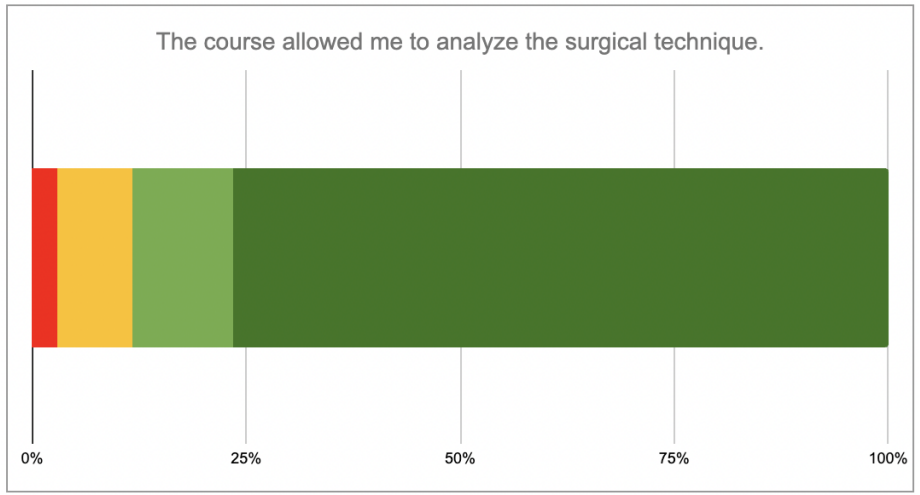
- Demographics (3 questions)
- Trainees' previous experience (3 questions)
- Trainees' experience at the time of follow-up (3 questions)
- Perception of the course (9 questions)
- Perception of the usefulness of skills acquired in: exploratory laparoscopy, LRYGB, sleeve gastrectomy, total laparoscopic gastrectomy, hiatal hernioplasty and fundoplication

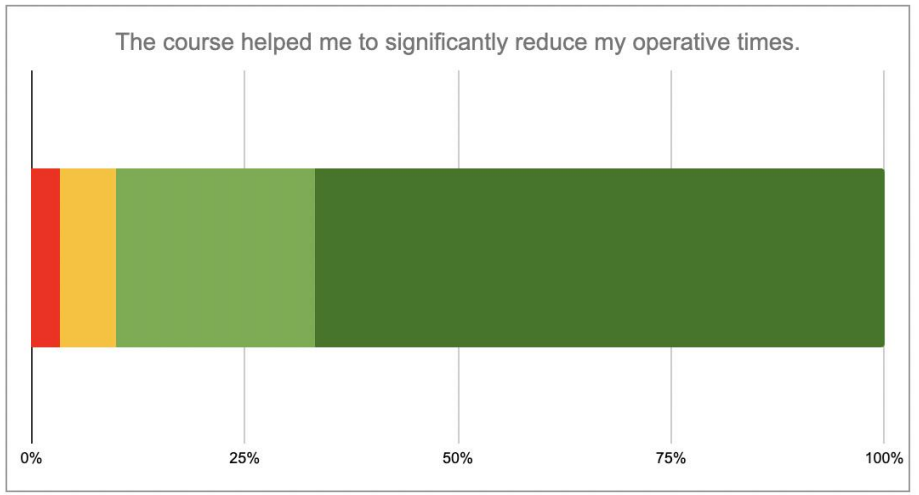
# Demographics

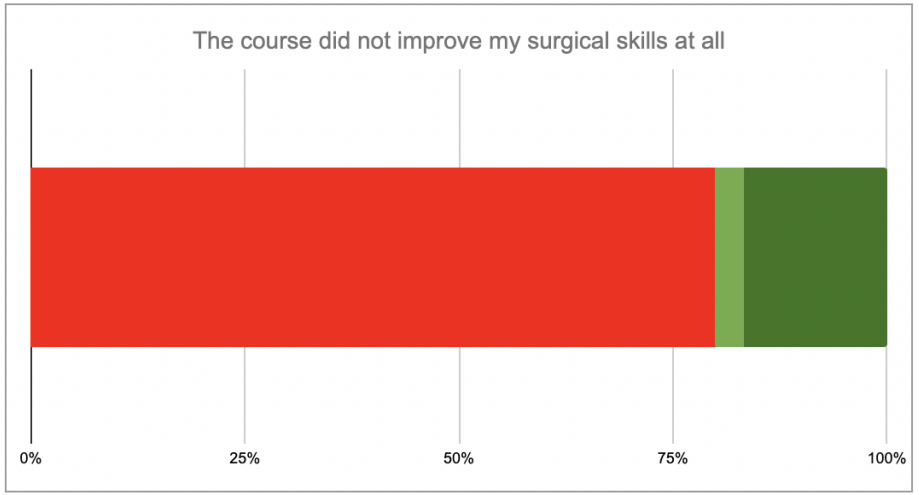
27% (n=30) answered the survey
93% (n=28) took the course with the aim of improving their surgical skills.
76.7% (n= 23) were general surgeons and 13.3% (n= 4) were general surgery residents

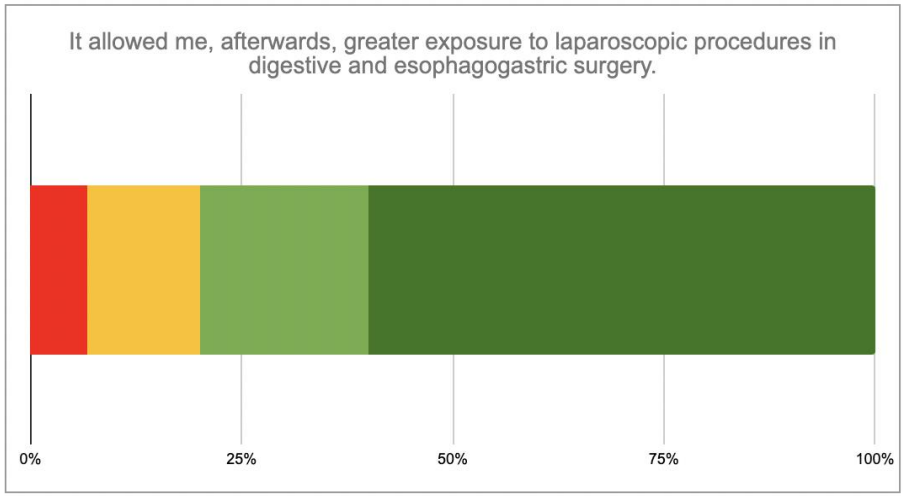
| ***Laparoscopic experience (cases)*** | ***Pre %*** | ***Post %*** | ***P-value*** |
|---|---|---|---|
| *None (0)* | 4 | - | - |
| *Beginner (1-50)* | 10 | - | - |
| *Intermediate (51-100)* | 30 | 10 | 0.11 |
| *Advanced (101-200)* | 23 | 33 | 0.54 |
| *Very advanced (>200)* | 33 | 57 | 0.024 |

# Trainees perception



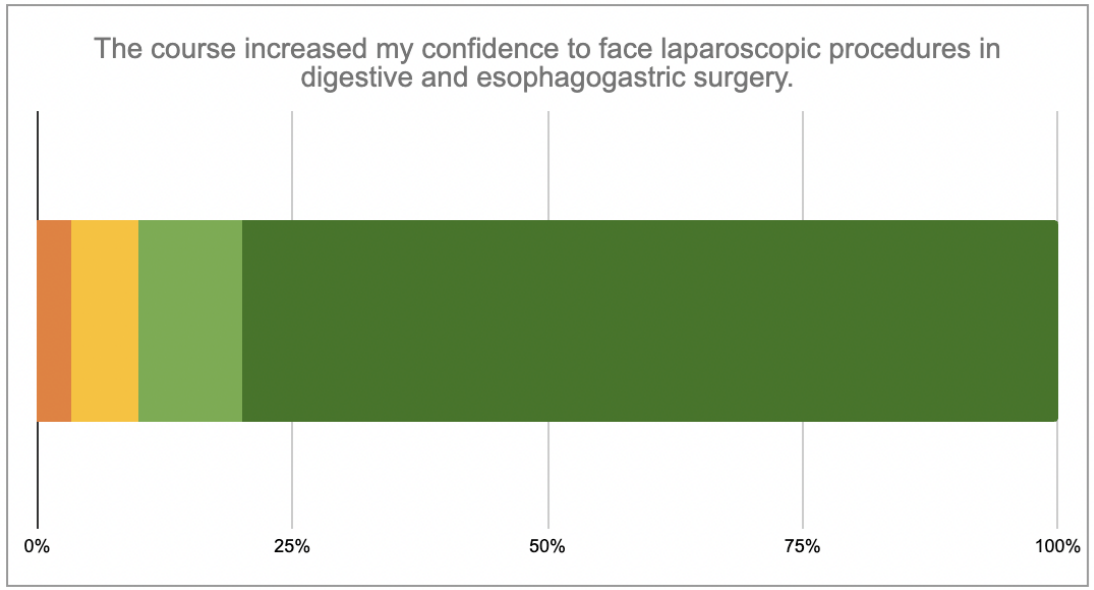



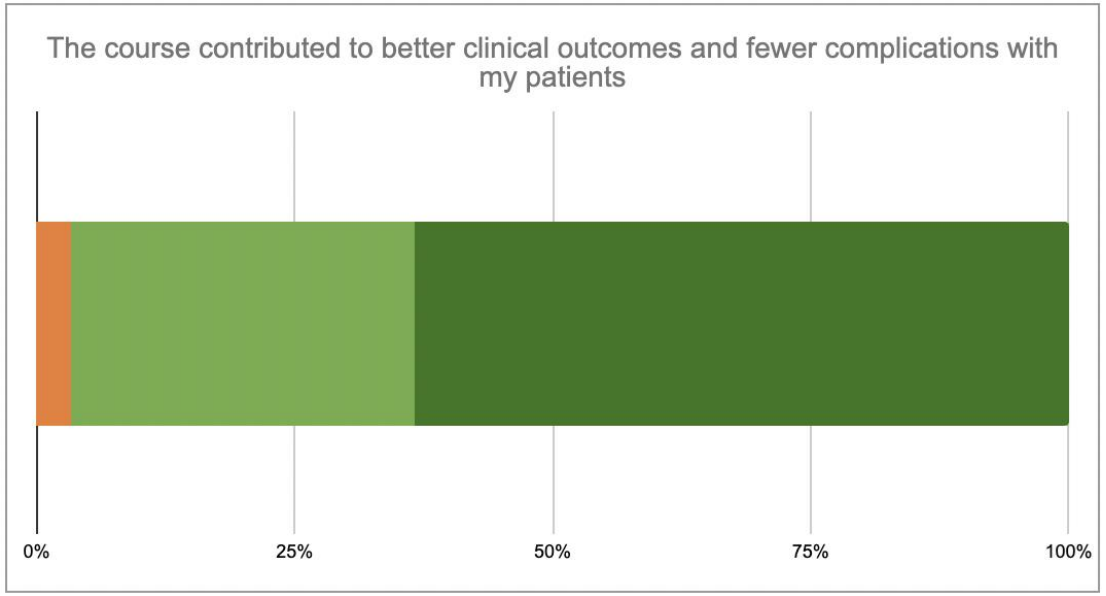




- Strongly disagree
- Disagree
- Neither agree nor disagree
- Agree
- Strongly agree

# Trainees perception




Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree

# FINAL COMMENTS

- Feedback from trainees highlights a simulation course's role in enhancing surgical skills, confidence, and exposure to complex cases.

- Follow-up with participants is a logistical challenge; it is necessary to generate strategies to achieve greater continuity in training and skills retention

- While recognizing that the attainment of surgical competency is influenced by multiple factors, this study provides valuable learner-centered evidence supporting the positive impact that structured simulation-based training can have on a surgical career.

## CONFLICT OF INTEREST DISCLOSURE

Julian Varas is Founder and CEO of C1DO1, Spinoff of the Pontificia Universidad Católica de Chile. The C1DO1 platform was used in this project to provide training with remote and asynchronous feedback.
No other conflict of interest to disclosure

The other authors have nothing to disclose.