

The impact of laparoscopy on incisional hernia rates

- an analysis of 1057 colorectal cancer
resections

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Introduction

- Incisional hernia affects 2-20% of abdominal surgery cases
 - Reduction of quality of life
 - Costs – repair / recurrence
- Expected to be less in laparoscopic era
 - Port site / extraction site
- Parastomal hernias
 - Closure of stoma site

Aim

- To determine frequency of incisional hernia formation after laparoscopic and open colorectal cancer surgery

Method

- Retrospective analysis
- Colorectal cancers - Jan 06 – Dec 11
 - Curative
 - Primary adenoca
 - Without abdominal wall reconstruction
 - 5 year annual follow up
 - CT surveillance scans at 1, 2/3, 5 years
 - Open v laparoscopic by intent

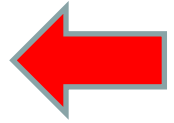
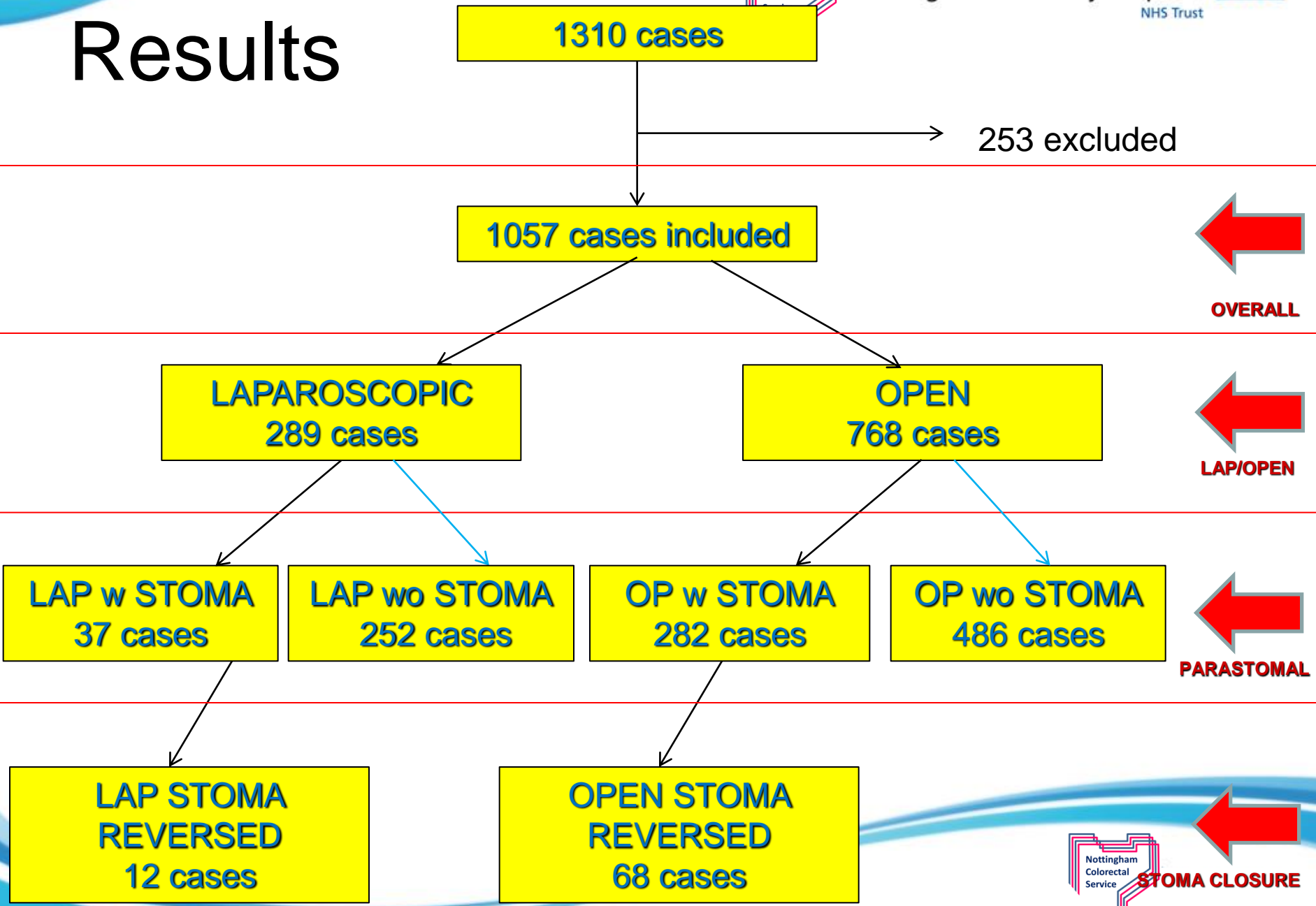
Method (cont'd)

- Open – midline, closed continuous en masse
- Laparoscopic
 - 3 x 12mm lateral ports, 1 x 5mm contralateral port
 - 5mm -> extraction site (muscle cutting)
 - Full thickness closure

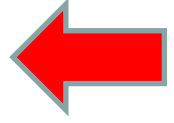
Method (cont'd)

- Hernias at
 - extraction site / port site / parastomal / closure of stoma site
- Hernia defect sizes measured:
 - Maximal lateral and vertical dimensions
- Reliability of measurements
 - 2nd assessor – 20 cases
- Parastomal hernia – any breach of sac through abdominal wall
- Hernia repairs

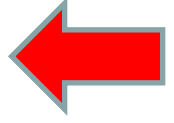
Results



OVERALL



LAP/OPEN

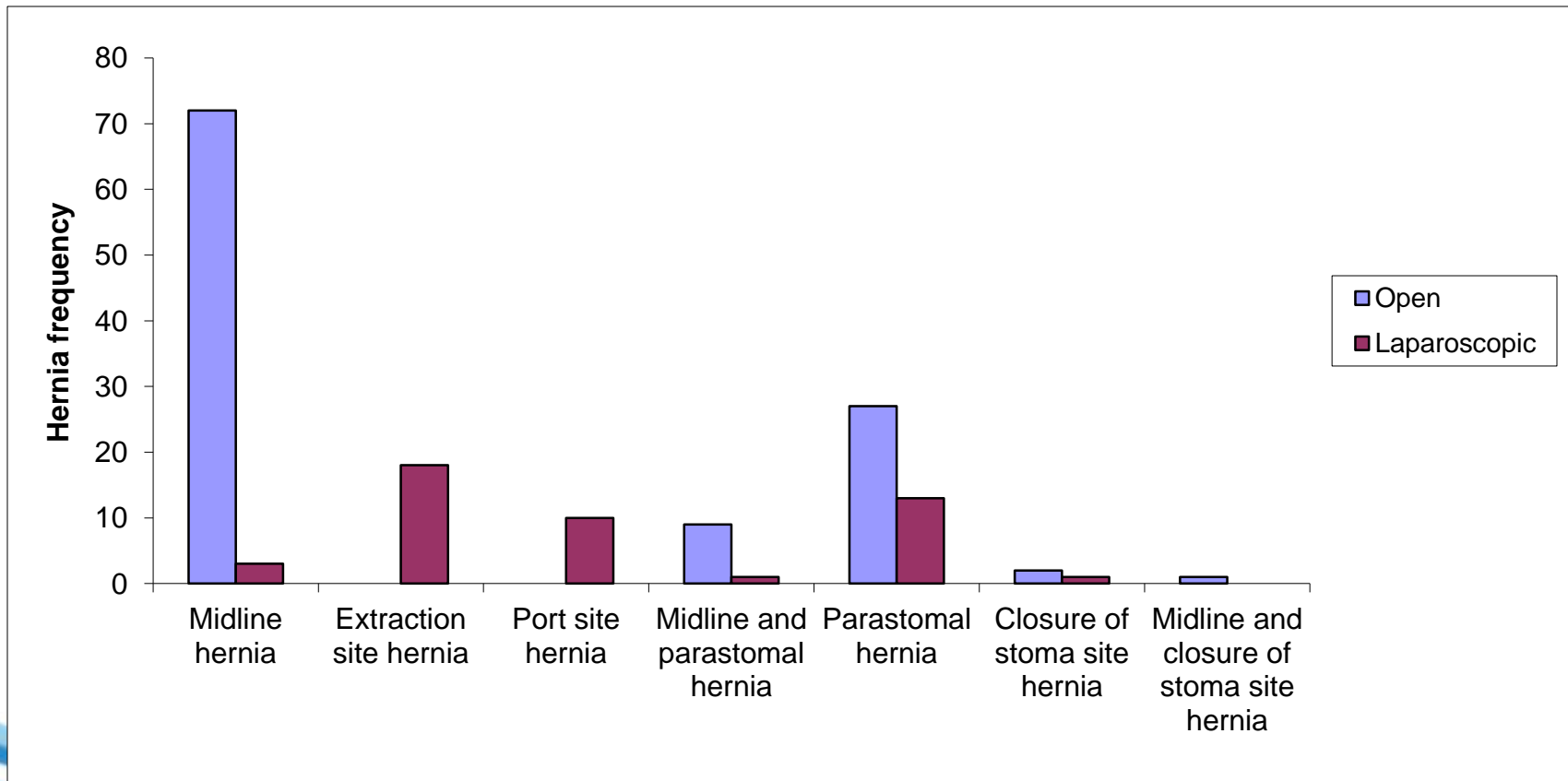


PARASTOMAL

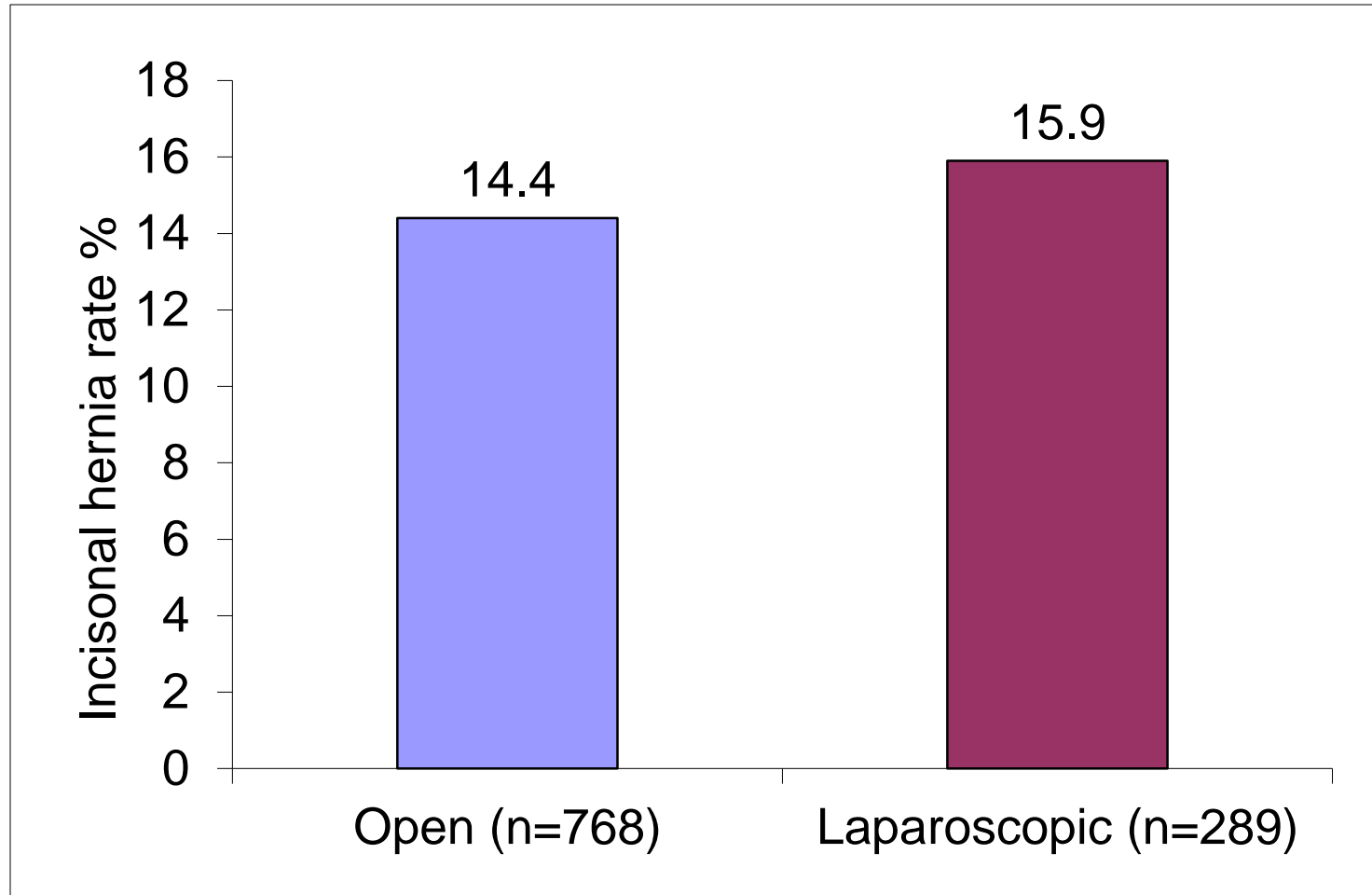


Results

- Median follow up: 44 months
- Overall: 14.8% (157/1057) developed hernia

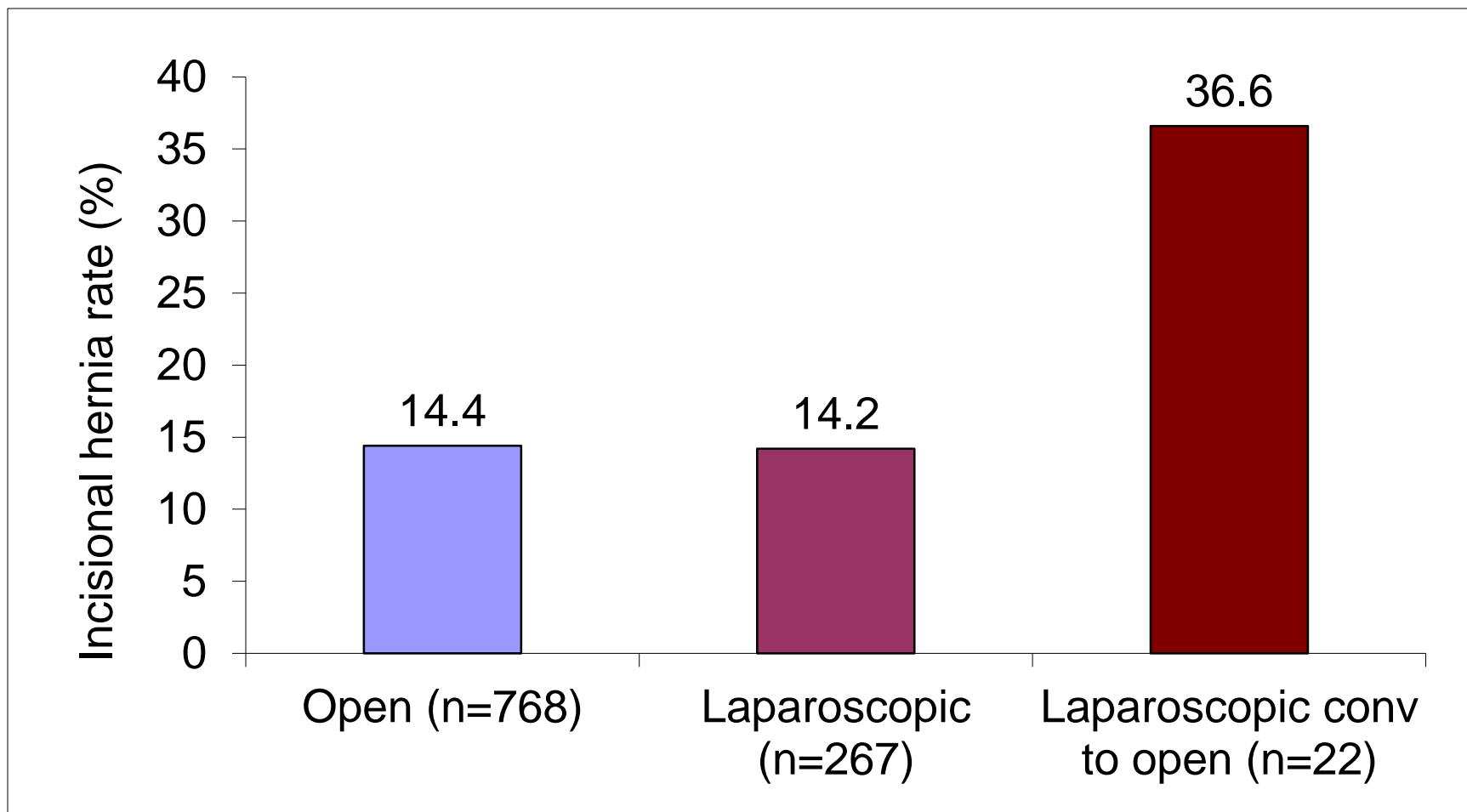


Overall



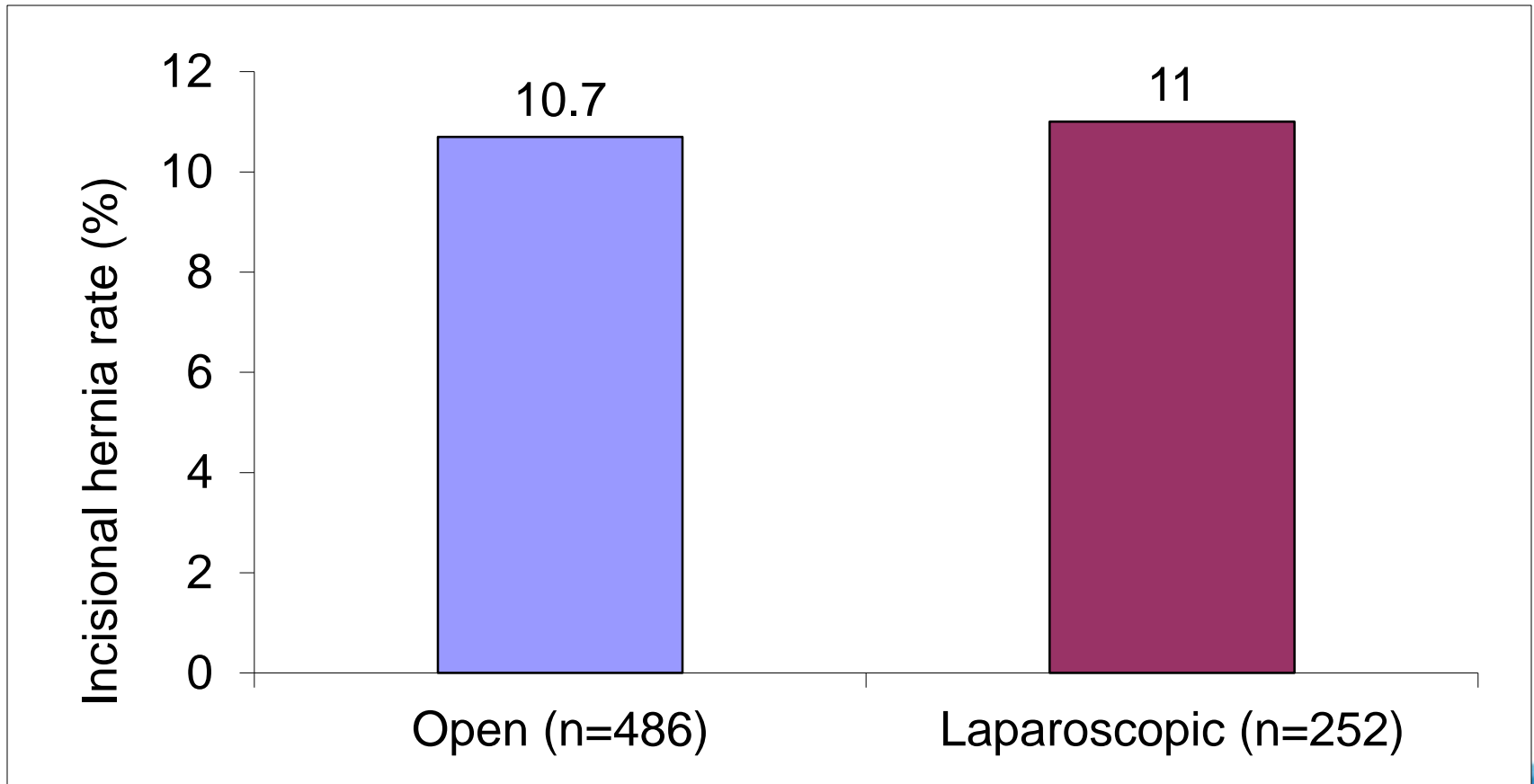
$p = 0.561$

Overall



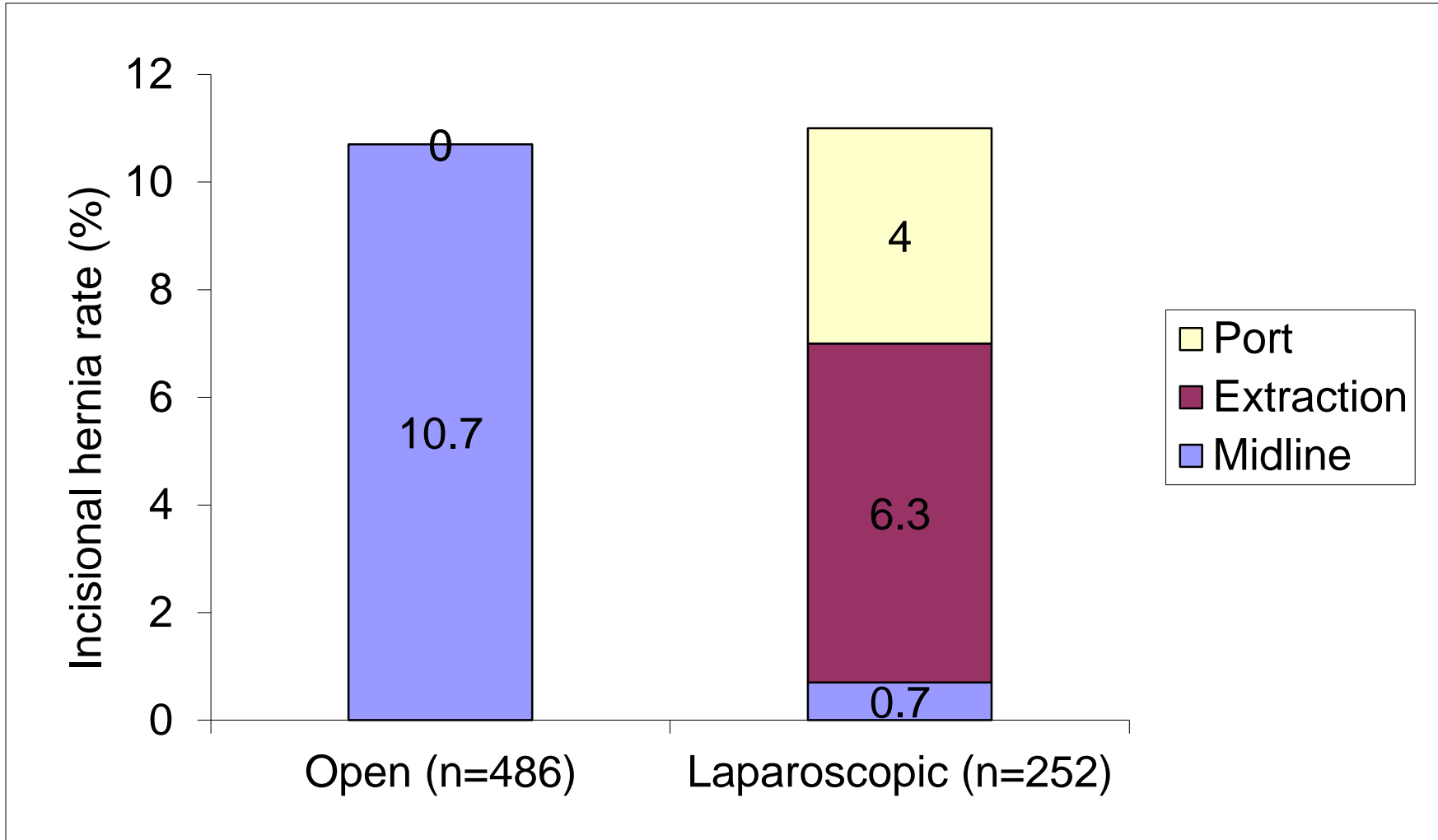
$p = 0.039$

Non stoma cases

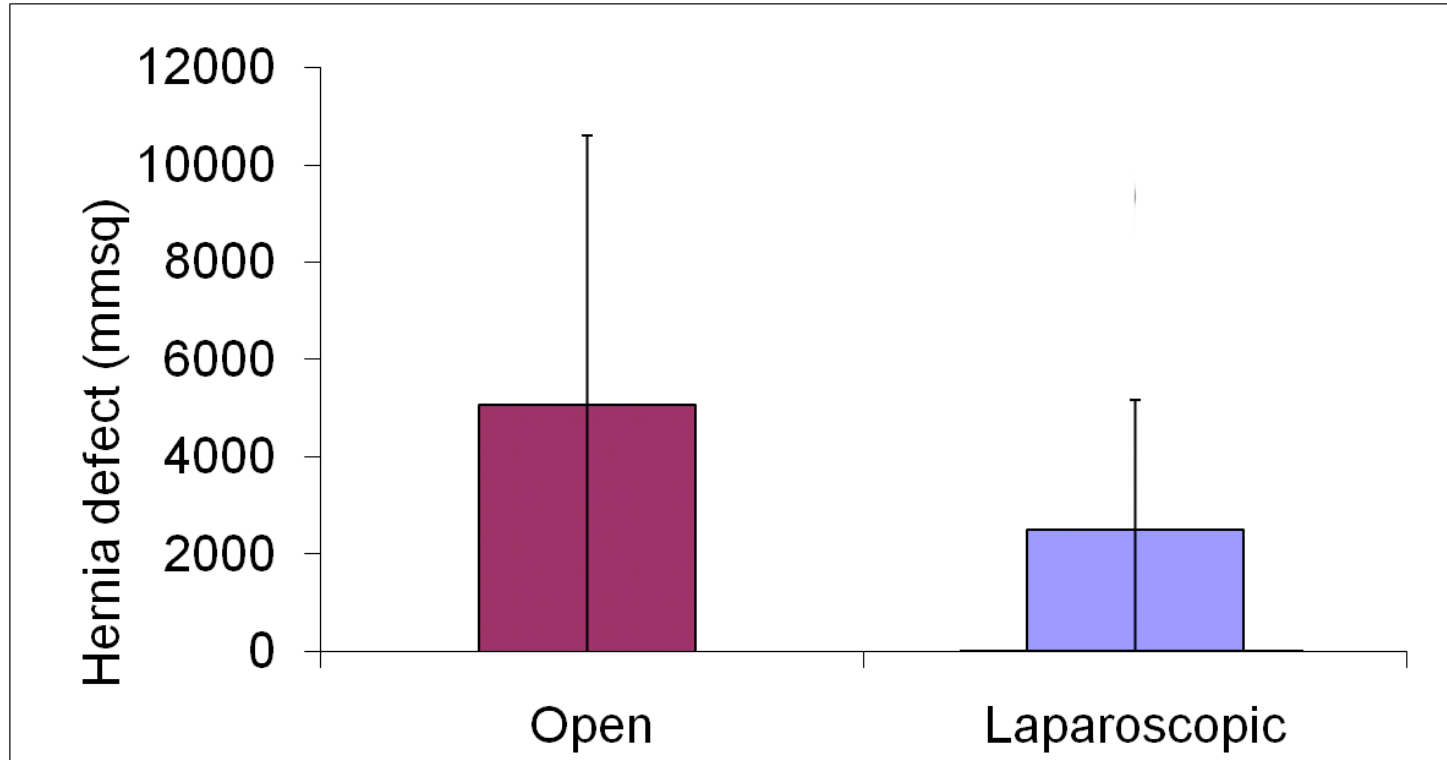


P = 0.956

Non stoma cases

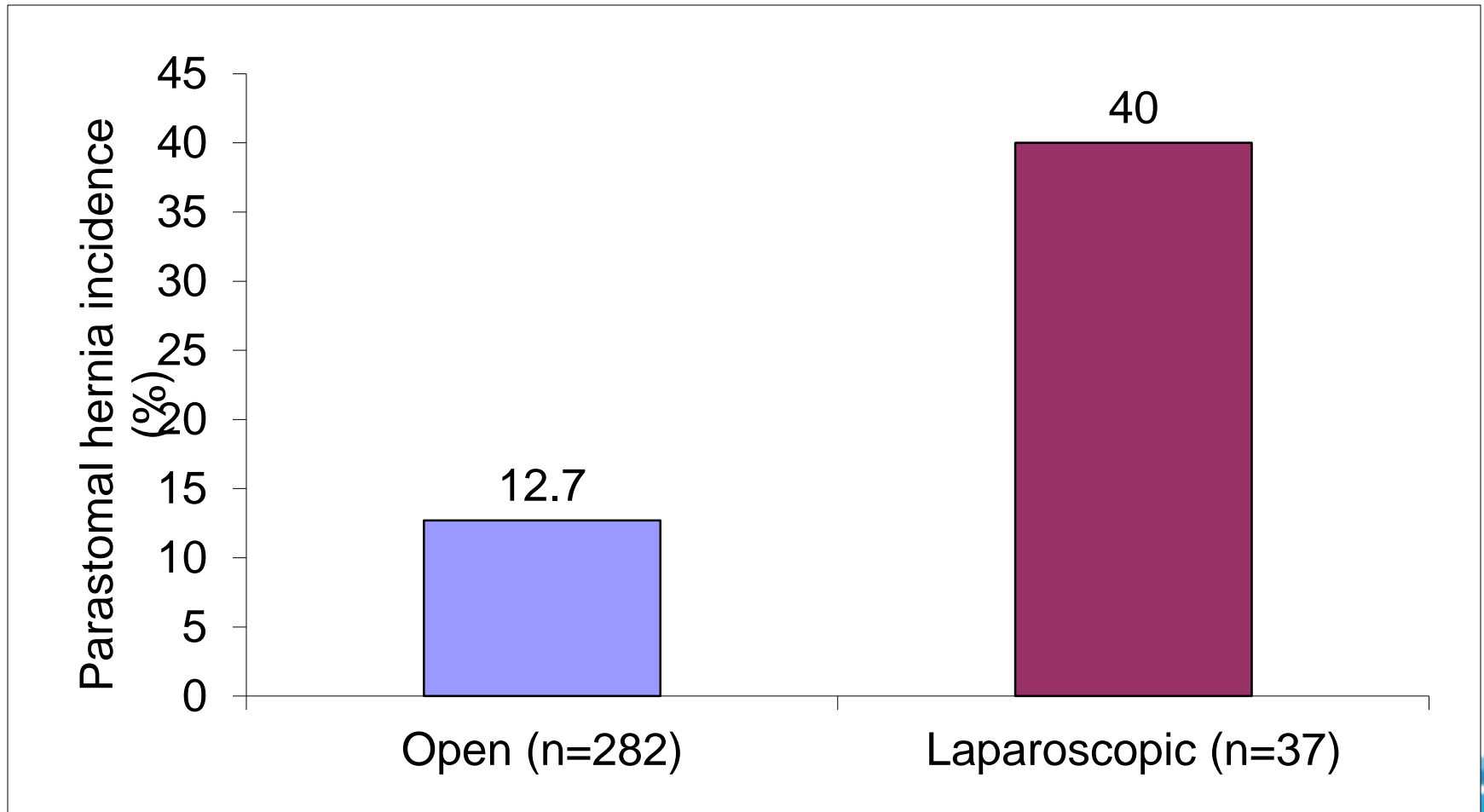


Hernia defect size



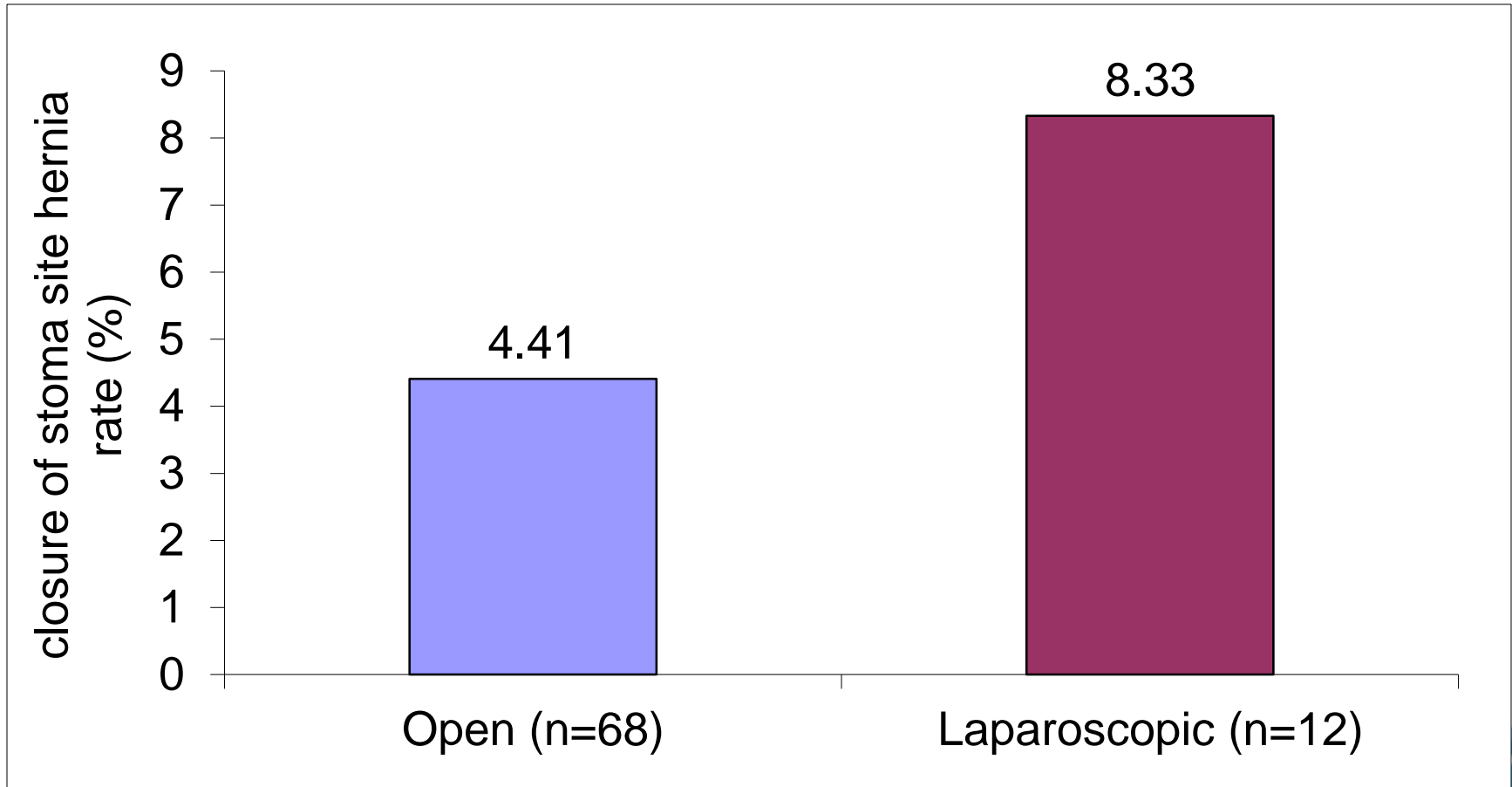
$P = 0.025$,
Cronbach's alpha = 0.95

Stoma cases

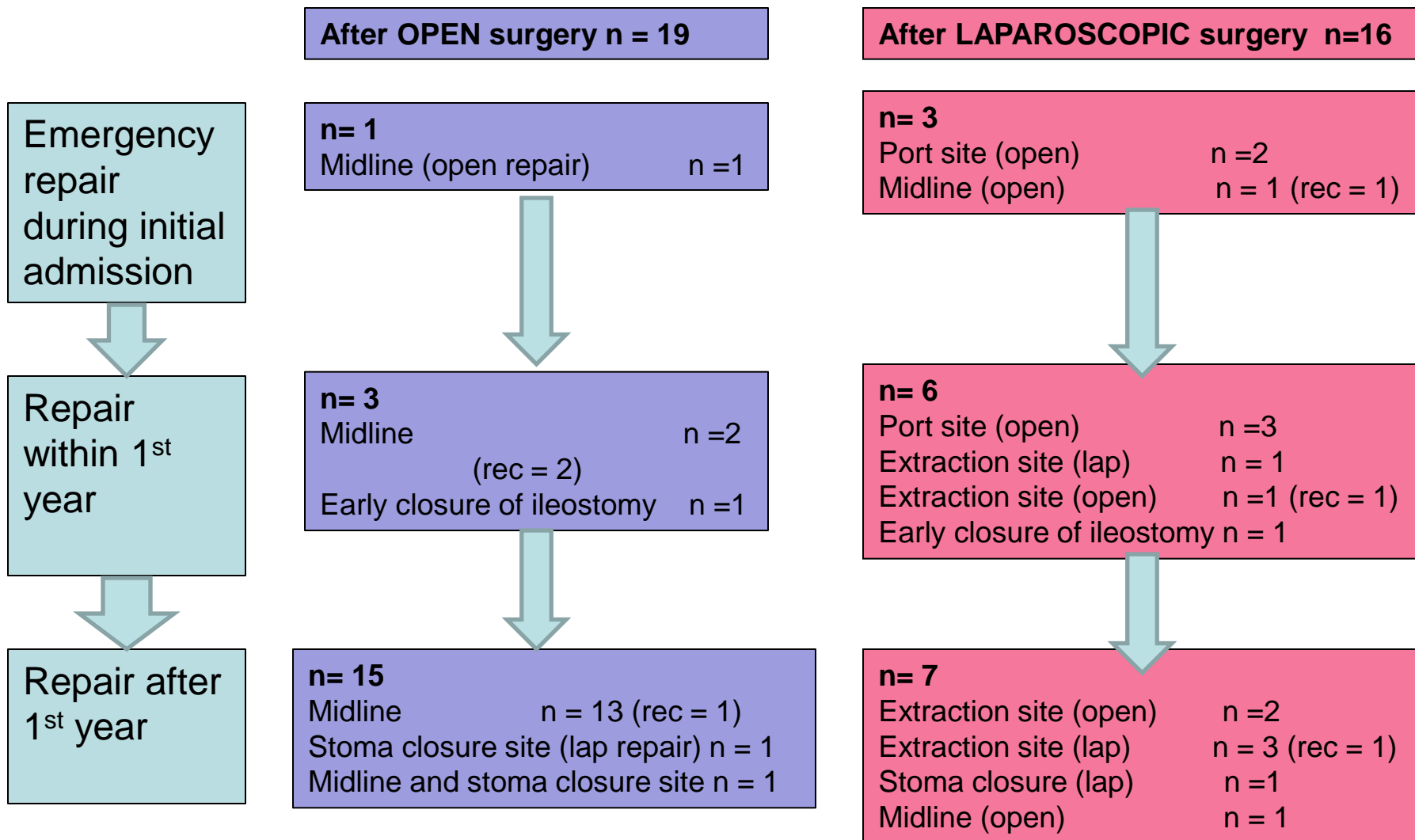


$P < 0.001$

Stoma closures



Hernia repairs



Conclusions

- Incisional hernia frequent in laparoscopic surgery as in open
 - Conversion to open increases risk
- Parastomal hernia more frequent in laparoscopic surgery
 - Role of extraction site
 - Absence of other distracting aperture?
 - Implication for Single Incision surgery
- Incisional hernia after lap surgery more likely to require repair and sooner
- Hernia defects smaller after laparoscopic approach

Discussion

- Port site hernia:
 - fascia closure device
 - 5mm camera
- Extraction site hernia:
 - Pfannenstiel extraction v lateral transverse extraction
 - Muscle splitting v muscle cutting
- Parastomal:
 - Use of mesh in end stoma