

## **iREACH MAGNUM POWERED STAPLER: A COMPARATIVE STUDY OF STAPLER SAFETY**

Jennifer J Yang<sup>1,2</sup>, Daniel Liu<sup>1,2</sup>, Madeline Cheong<sup>1</sup>, Daniel L Chan<sup>1,3</sup>, Ken W Loi<sup>1,2</sup>

<sup>1</sup> Saint George Obesity and General Surgery, St George Private Hospital, Kogarah, New South Wales, Australia

<sup>2</sup> Saint George and Sutherland Clinical School, Faculty of Medicine, The University of New South Wales, Sydney, New South Wales, Australia

<sup>3</sup> School of Medicine, Western Sydney University, Sydney, New South Wales, Australia

**Background/Introduction:** Laparoscopic staplers are integral to bariatric and metabolic surgical procedures, particularly sleeve gastrectomy. These devices facilitate transection of the gastric tube with concurrent haemostasis. Technology in stapler systems continues to advance, with powered devices and improvements in ergonomics. iREACH Magnum powered stapler (Reach Surgical (Tianjin) Co., Ltd.) is a new powered stapler system. It is important that new devices are safe and compared with existing staplers to help inform surgeons.

**Objectives:** To compare the short-term safety and efficacy of the iREACH Magnum powered stapler with the established powered stapler system at our facility.

**Methods:** A retrospective review was conducted on a prospective database of consecutive patients undergoing laparoscopic sleeve gastrectomy (LSG) from February – September 2022, by a single surgeon. Patient demographics, co-morbidity, short-term morbidity and weight change data was reviewed. Chi-squared and non-parametric (Mann Whitney) tests were used for statistical analysis.

**Results:** 81 patients underwent LSG during the study period, with 34 (42%) utilizing the iREACH powered stapler vs 47 (58%) utilizing conventional powered stapler system. There was no significant differences between patient demographics (sex, age, or initial body mass index). There were two cases of superficial wound infections, with one Grade I complication in each group (2.9% vs 2.1%,  $p=0.79$ ). There were no Grade II or higher complications. There were no postoperative bleeding, stenosis, staple-line leak events, or mortality in this series.

**Conclusion:** iREACH Magnum powered stapler appears to have a similar short-term safety profile to an established powered stapler system at our facility.