

# Effect of a circular powered stapler on reducing the risk of anastomotic leakage in patients with left-sided colorectal cancer

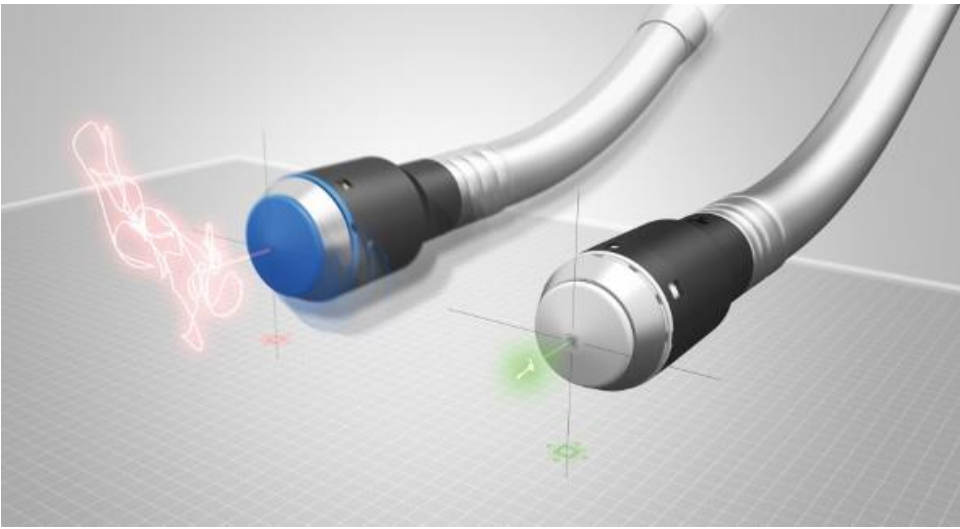
Masatsune Shibutani, Tatsunari Fukuoka, Hiroaki Kasashima, Kiyoshi Maeda

Department of Gastroenterological Surgery  
Osaka Metropolitan University Graduate School of Medicine

## Background

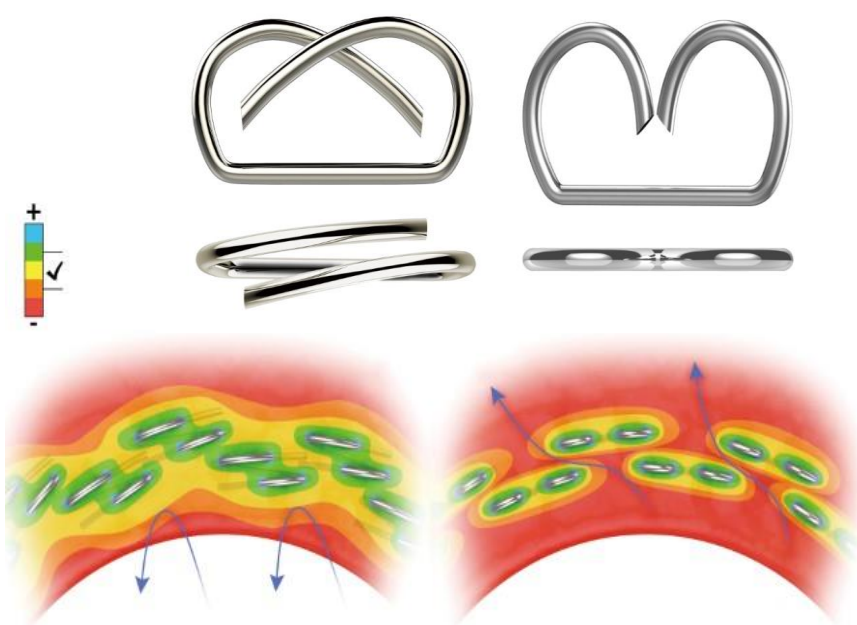
Anastomotic leakage is a serious complication in colorectal surgery and a concern for colorectal surgeons. The powered circular stapler, which was developed with the aim of providing reliable and reproducible anastomosis, provides complete anastomosis, resulting in a reduced risk of anastomotic leakage. The aim of this study was to compare the incidence of anastomotic leakage between a conventional manual circular stapler (MCS) and the ECHELON CIRCULAR™ Powered Stapler (ECPS) in patients with left-sided colorectal cancer who underwent anastomosis with the double stapling technique.

### Electric



Less force to fire  
Less movement at the distal tip  
Less microtissue damage

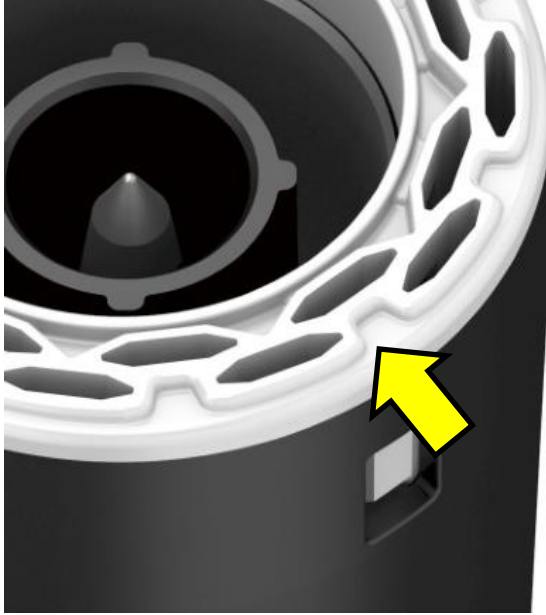
### 3D stapling



The area covered by one staple is increased

### GST

(Gripping Surface Technology)



Precise compression only where it is needed

ECHELON CIRCULAR POWERED STAPLER by ETHICON  
Permission to use.

## Patients and Methods

A total of 187 patients with left-sided colorectal cancer who underwent anastomosis with the double stapling technique with a conventional MCS or the ECPS during surgery between January 2016 and July 2022 were enrolled in this study. An expert in colorectal surgery participated in all surgeries. There was no operator bias in the use of circular staplers.

## Treatment outcomes

Factors	Entire cohort			Matched cohort		
	ECPS (n=68)	MCS (n=119)	p-value	ECPS (n=63)	MCS (n=63)	p-value
Anastomotic leakage, n(%)	3 (4.4%)	17 (14.3%)	0.048	2 (3.2%)	9 (14.3%)	0.054
Re-operation, n(%)	1 (1.5%)	3 (2.5%)	>0.999	0 (0%)	3 (4.8%)	0.244

The incidence of anastomotic leakage in the ECPS group was lower than in the MCS group.

## Conclusion

The ECPS has the potential to help reduce the rate of anastomotic leakage in left-sided colorectal surgery.

## Disclosure Information

Masatsune Shibutani

We have no financial relationships to disclose.

