Objectives To compare rates of diverting ileostomy in patients with epithelial ovarian cancer (EOC), undergoing surgical cytoreduction with bowel resection before and after the acquisition of surgical innovative tool for anastomotic perfusion assessment using indocyanine green (ICG-FA).

Methods A retrospective cohort study of patients with EOC undergoing bowel resection during primary or interval cytoreductive surgery, at Princess Margaret Hospital between 2010–2021. We evaluated whether utilizing the ICG-FA surgical tool, without integrating it into a systematic decision-making diversion protocol, impacted surgeons’ decision on performing diverting ileostomy.

Results Overall 181 patients met inclusion criteria. Of whom, 84 (46%) underwent ICG-FA assessment after bowel resection, and 97 (54%) had bowel resection without ICG-FA assessment. Mean age of the cohort was 58.2. There was no significant difference between groups in the rates of diverting ileostomy (40.5% in the ICG-FA group vs 41.2% in the no ICG group, p=1.0). In a univariable logistic regression, the odds of having an ileostomy were 2.92 times higher in patients undergoing primary surgery as compared to patients undergoing interval cytoreductive surgery (95% CI 1.25–6.85, p=0.013). The use of ICG-FA did not predict performing or omitting a diverting ileostomy (OR 0.97, 95% CI (0.53–1.76), p=0.92).

Conclusions In this cohort, the introduction of ICG-FA technology had no impact on the rates of diverting ileostomy. A systematic, quality-based decision-making protocol for bowel diversion that includes ICG-FA assessment is needed to prospectively assess the potential impact of this surgical innovative tool on the surgeon’s decision-making and the rates of bowel diversion in patients with EOC.