

## Introduction

In contrast to Oesophagogastroduodenoscopy (OGD) colonoscopy can be a slow arduous procedure. Outpatient colonoscopy clinics already overburdened pre-COVID-19 are now faced with an insurmountable task of clearing enormous back-logs.

Variables associated with an increased colonoscopy duration time such as inpatient vs. outpatient status, medical co-morbidities (Type 2 diabetes mellitus) and the use of anti-motility medication (opioids) have been previously identified in other studies (1,2,3).

These variables represent patient-related factors while few studies have characterised provider related issues contributory to duration.

## Objective

Identify specific risk factors for prolonged colonoscopy in an outpatient endoscopy unit. Correlate results to optimise time management in endoscopy units.

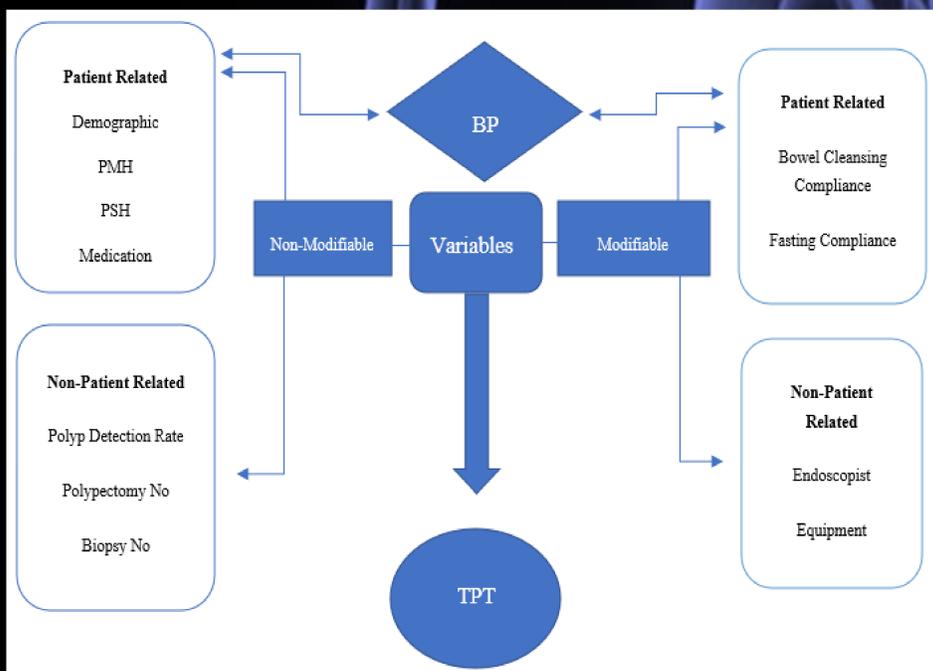
## Methods

Prospective survey cohort: 45 patients (15 male, 30 female)

Data retrieval: 4 prong approach

- Patient questionnaire (identify patient specific risk factors)
- Quantitative analysis document (measure total procedure time (TPT), caecal intubation time (CIT), withdrawal time (WT), Number of polyps identified/resected), Number of biopsies
- Bowel preparation measurement tool (Boston Bowel Preparation Scale (BBPS))
- Endoscopist questionnaire (identify experience in colonoscopy i.e. Number of procedures conducted)

Figure 1. Variables influencing colonoscopy procedure duration



Bowel preparation (BP), Past medical history (PMH), Past surgical history), Total procedure time (TPT), ED=TPT

## Results

Endoscopist experience has an impact on TPT (P= 0.003, Eta2= 0.247).

Experienced endoscopists had on average a TPT 50% shorter than their less experienced counterparts (See Figure 2.). Experience was segregated based on number of procedures performed (<100, 100-500, 500-1000, >1000)

The following were also identified as impacting on TPT

- Polyp detection (P= 0.001, Eta2= 0.233)
- Number of polypectomies per procedure (P= <0.0001, Eta2= 0.436),
- Number of biopsies (P= 0.026, Eta2= 0.166).

Bowel preparation grade (according to Boston Bowel Preparation Scale) has an impact on CIT (P= 0.03, Eta2= 0.241) with an inverse relationship between duration and BP grade

Figure 2. Endoscopist Vs. Mean procedural time points

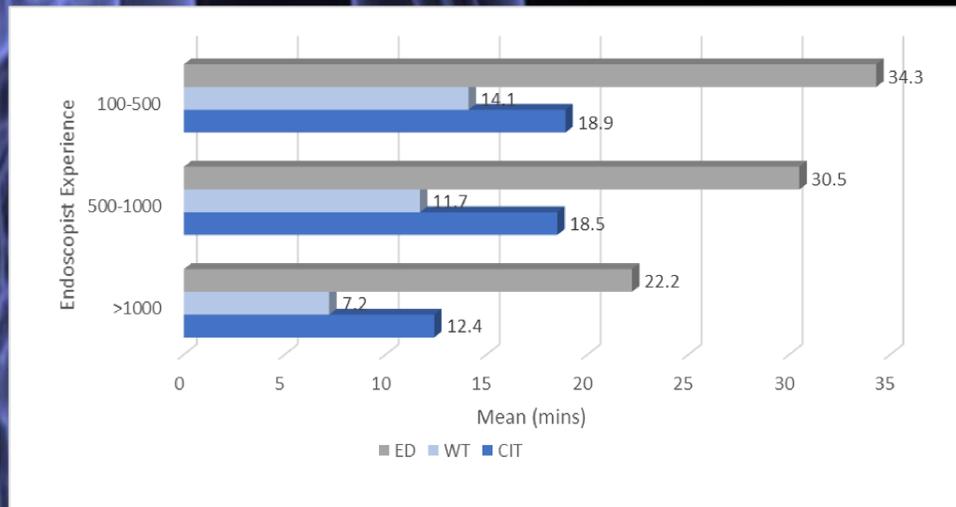
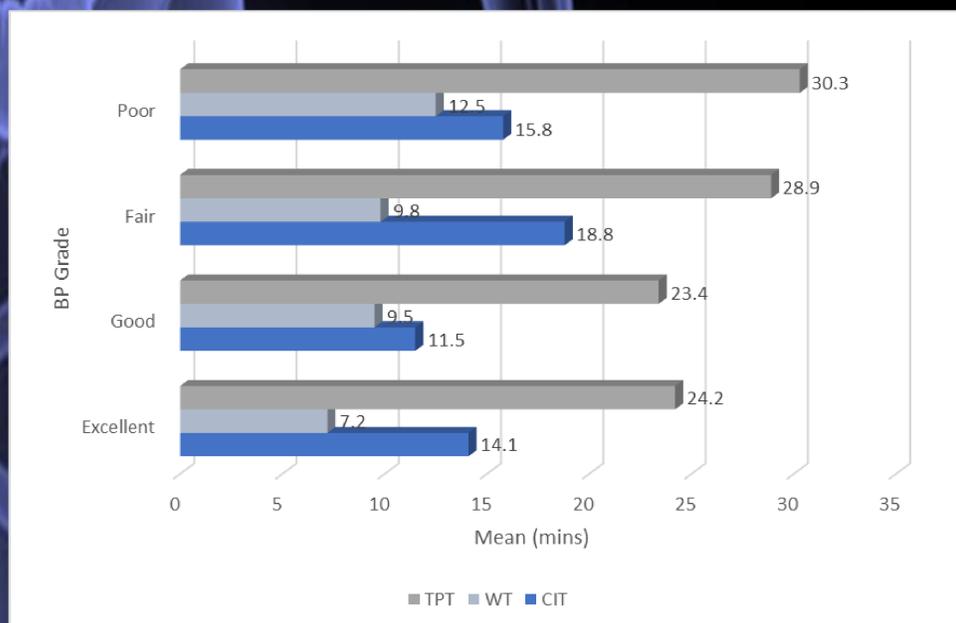


Figure 3. Bowel preparation grade Vs. Mean procedural time points



## Conclusion

To clear the backlog facing endoscopy units a transient change may be required. The single greatest modifiable risk factor is endoscopist experience. Therefore, movement of experienced endoscopists into a strict procedural role may be suitable temporarily. Also, strict bowel cleansing agent compliance must continue to be encouraged.

## References

1. Almadi M, Alharbi O, Azzam N, Altayeb M, Thaniah S, Aljebreen A. Bowel preparation quality between hospitalized patients and outpatient colonoscopies. Saudi Journal of Gastroenterology. 2018;24(2):93.
2. Menees S, Kim H, Wren P, Zikmund-Fisher B, Elta G, Foster S et al. Patient compliance and suboptimal bowel preparation with split-dose bowel regimen in average-risk screening colonoscopy. Gastrointestinal Endoscopy. 2014;79(5):811-820.e3.
3. Nguyen DL, Wieland M: Risk factors predictive of poor quality preparation during average risk colonoscopy screening: The importance of health literacy. J Gastrointestin Liver Dis, 2010; 19(4): 369-72