The effect of taking break during colonoscopy session on adenoma detection, a prospective randomized control study

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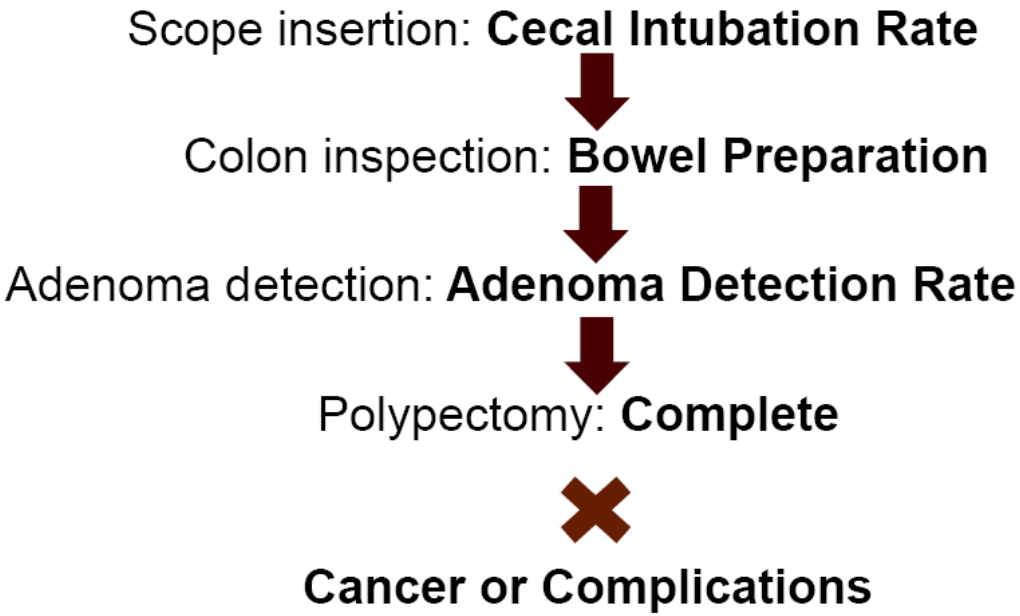
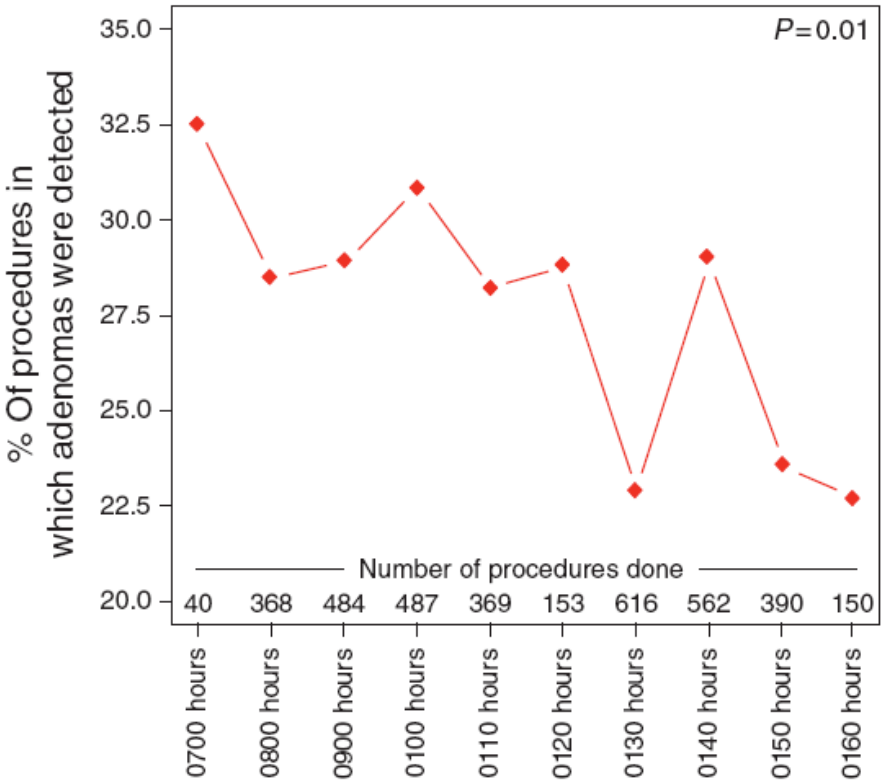
Quality indicator of colonoscopy



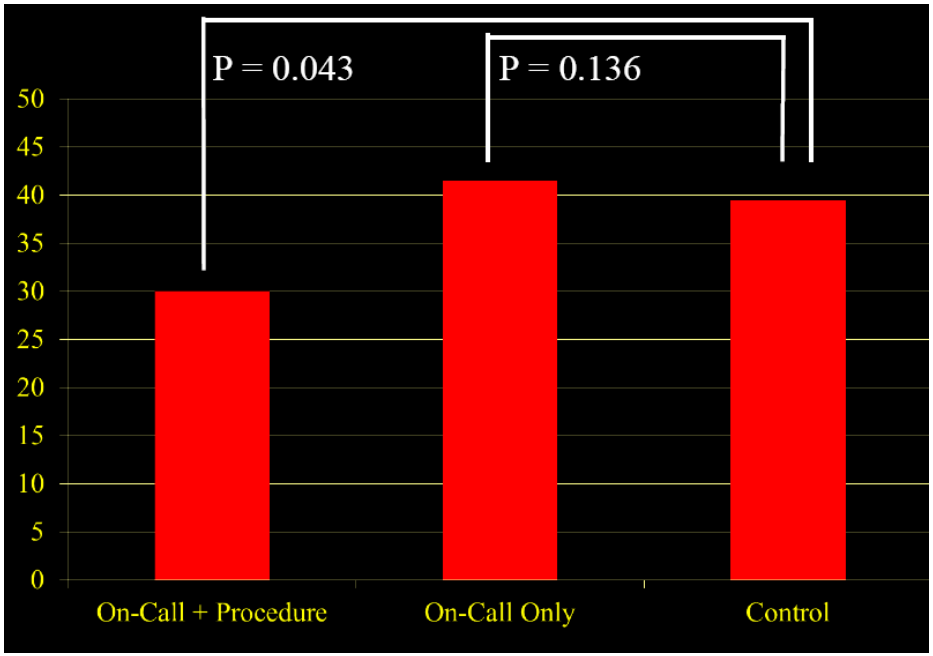
- Colonoscopy: repetitive, require high level of concentration, and frequently prolonged procedure → both physical and mental fatigue
- Increasing demand of colonoscopy → long list per session of colonoscopy
- Endoscopist fatigue → **reduce ADR**

Lee et al. Am J Gastroenterol 2009
Kelly et al. Gastrointest Endosc 2012
Mark Benson MD, Gastrointestinal Endoscopy, 2013

Problem of Endoscopist fatigue



Sanaka, M.R., et al., Adenomas are detected more often in morning than in afternoon colonoscopy. Am J Gastroenterol, 2009



Benson, M.E., et al., Influence of Previous Night Call and Sleep Deprivation on Screening Colonoscopy Quality. Gastrointestinal Endoscopy, 2013.

AIM OF STUDY :

To determine whether a 15-minute break in the middle of a colonoscopy session would prevent dropping in ADR due to endoscopist fatigue

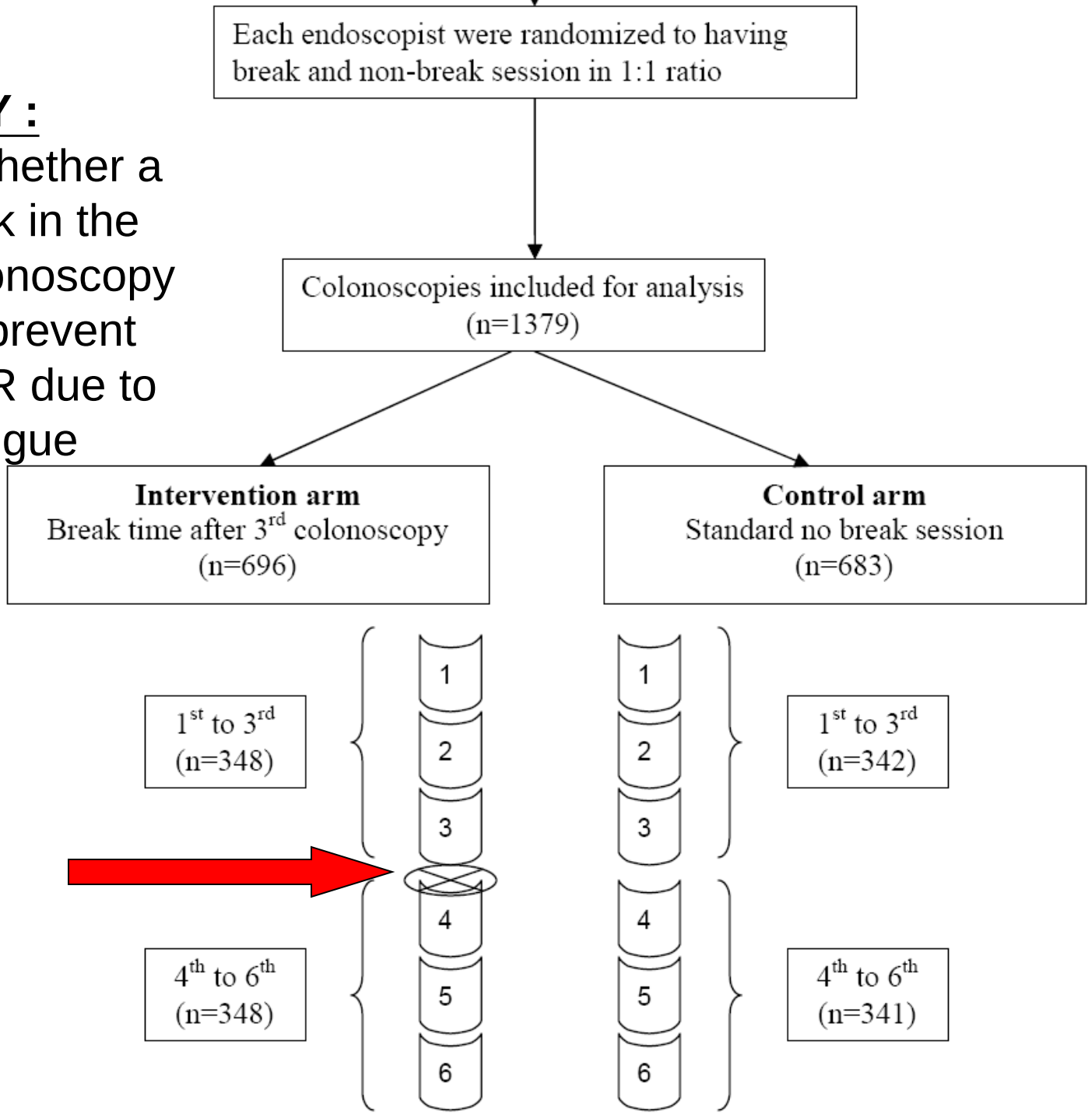
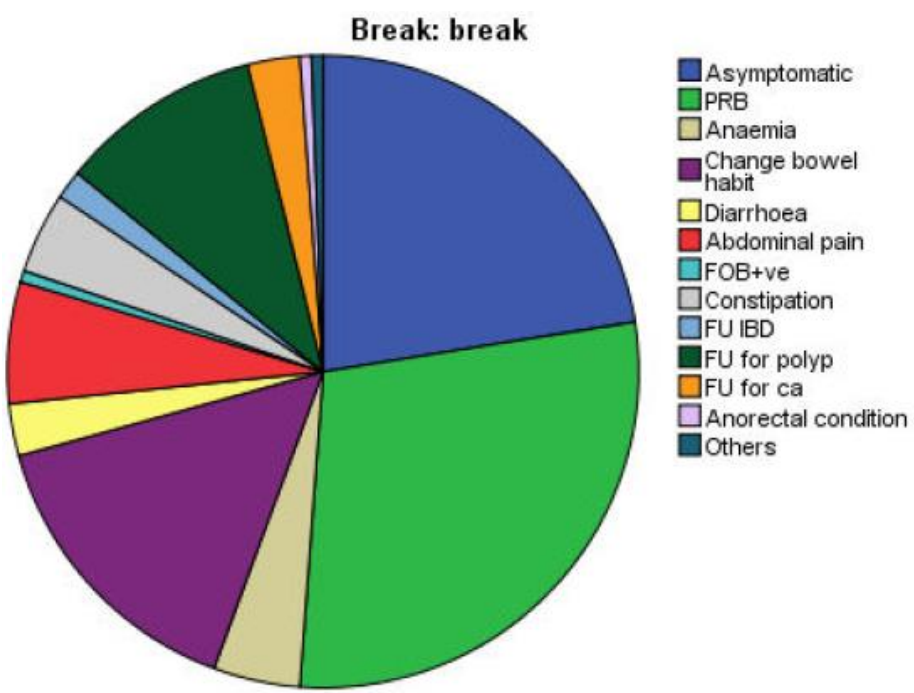
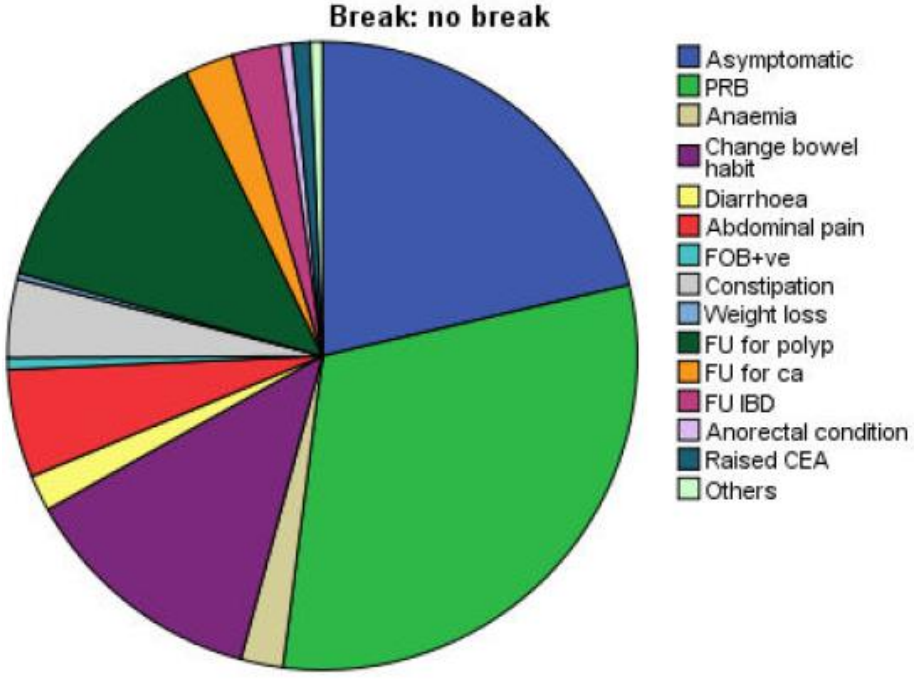


Table 1: Baseline characteristics

	Break(n=696)	No break(n=683)	P-value
Age, y, mean (SD)	55.0 (8.9)	55.2(8.7)	0.794
Gender, n (%) Male Female	 336 (48.3%) 360 (51.7%)	 348 (51.0%) 335 (49.0%)	0.320
BMI (kg/m2) (SD)	23.6 (3.8)	23.6 (3.6)	0.366
Smoking, n (%) Active smoker Ex-smoker Non-smoker	 70 (10.1%) 77 (11.1%) 548 (78.8%)	 79 (11.6%) 61 (8.9%) 543 (79.5%)	0.314
Drinking, n (%) Drinker Ex-drinker Non-drinker	 77 (11.1%) 29 (4.2%) 589 (84.7%)	 77 (10.7%) 22 (3.2%) 588 (86.1%)	0.618
Previous abdominal or pelvic surgery, n (%)	181 (26.0%)	184 (26.9%)	0.552
Co-morbidities, n (%) HT DM IHD CVA Hyperlipidemia	 215 (30.9%) 91 (13.1%) 27 (3.9%) 14 (2.0%) 113(16.2%)	 207 (30.3%) 86 (12.6%) 38 (5.6%) 19 (2.8%) 122 (17.9%)	 0.814 0.789 0.140 0.349 0.422
Fhx of polyp n (%)	84 (12.1%)	64 (9.4%)	0.213
Fhx of CRC (1st degree relative), n (%)	119 (17.1%)	108 (15.8%)	0.754
Previous colonoscopy n, (%)	226 (32.5%)	220 (32.2%)	0.918

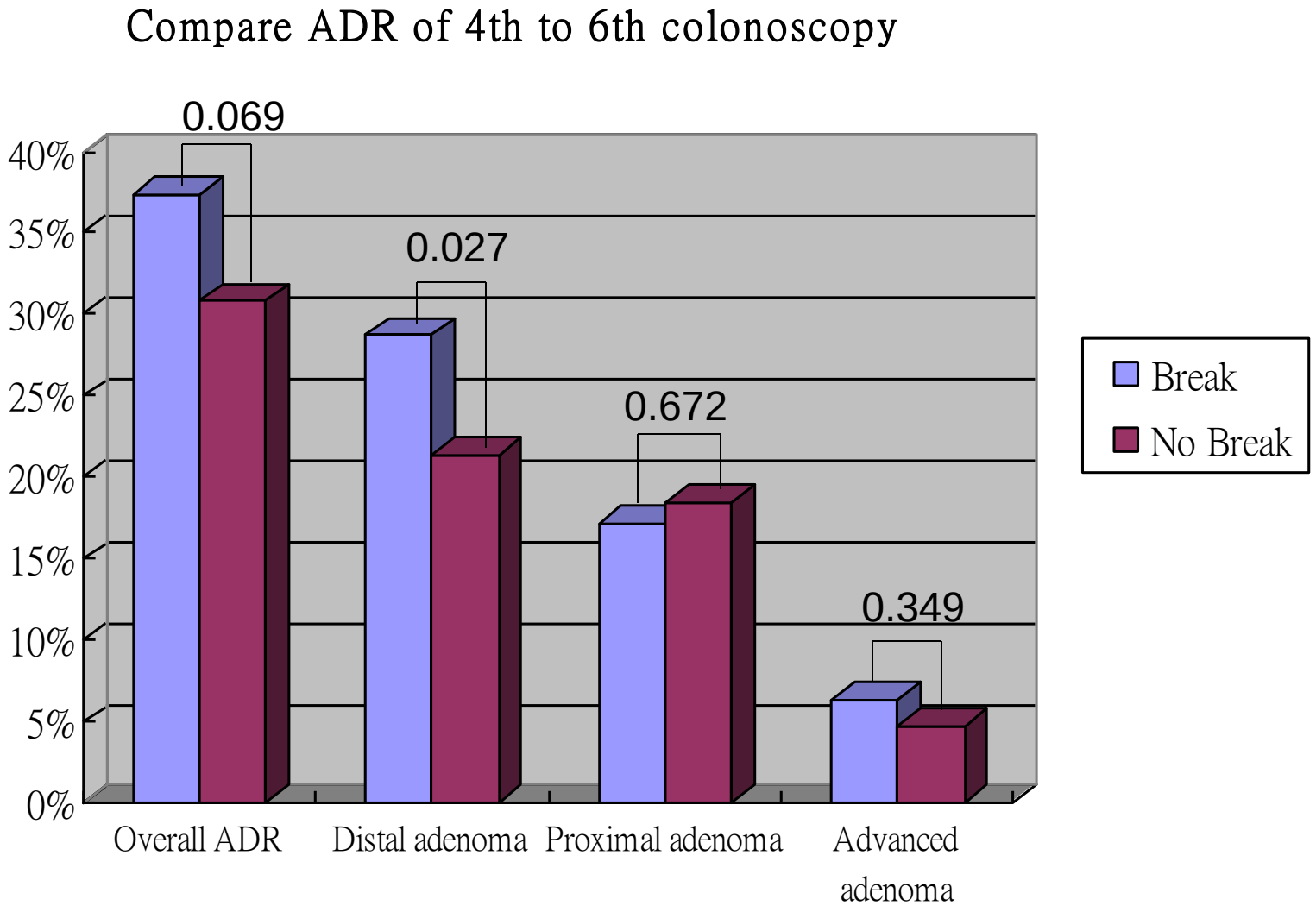
Indication of colonoscopy





Diagnostic colonoscopy comprised the majority of our population (62% in both groups) followed by screening colonoscopy (20% in both groups)

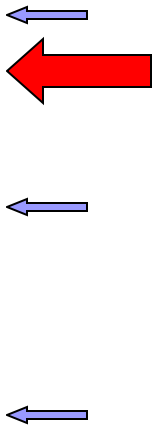
Result(1): ADR between the two groups



Resut(2): Predictors of ADR

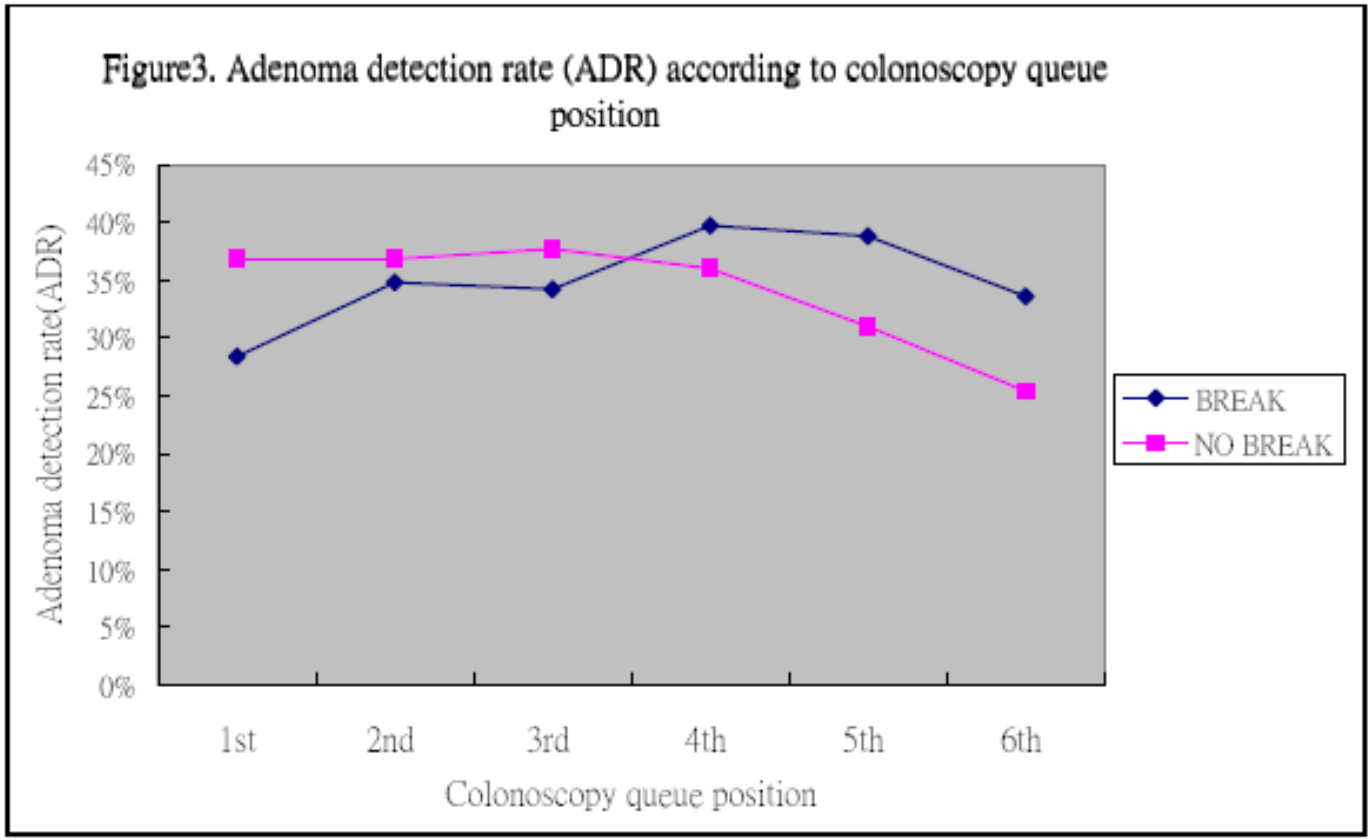
Table 5. Multivariate analysis of predictors associated with ADR in the 4th to 6th colonoscopy

Predictor	Multivariable OR for ADR (95% CI)	*P* Value
Sex(Male)	2.555 (1.778 - 3.671)	<0.001
Break	1.456 (1.030 - 2.056)	0.034
Diabetes	1.221 (0.735 - 2.027)	0.441
Age	1.064 (1.041 - 1.089)*	<0.001
Smoker	1.588 (0.894 – 2.821)	0.115
BMI	1.035 (0.989 – 1.084)*	0.139
Withdrawal time(min)	1.171 (1.122 - 1.222)	<0.001



- Taking break in a colonoscopy session was significantly associated with an increased ADR
- Other predictors: Male gender, older age and withdrawal time

Result(3): ADR per colonoscopy queue position



- The ADR is more stable in the intervention group
- ADR drop after the 4th colonoscopy in the control group

Conclusion

- Taking a 15-min break in halfway through a colonoscopy session **improved ADR** in subsequent colonoscopies
- It can maintain **a more stable ADR** when compare to that without a break
- It may provide a relatively **simple, inexpensive, harmless and practical** way to tackle endoscopist fatigue and improve colonoscopy performance