

# Rectal Retroflexion for screening colonoscopy: A Systematic Review and Meta-analysis



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### INTRODUCTION

- The primary goal of screening colonoscopy is to detect and resect premalignant colon lesions
- The miss rate remains significant in quality adjusted colonoscopies<sup>1</sup>
- Previous meta-analysis showed that right-sided retroflexion significantly increases the detection of adenomas in the right colon<sup>2</sup>
- Evidence regarding the value of rectal retroflexion remains unclear

#### OBJECTIVE

- Determine the effect of rectal retroflexion on the polyp detection rate
- Determine the overall success rate of this maneuver

## **METHODS**

- A systematic review of all the major databases was performed (MEDLINE, Embase, CINAHL, Google Scholar)
- Data on patient demographics, study design, country of publication, polyp histology, detection rate of polyps with retroflexion were extracted
- Pooled proportions were calculated using the arcsine square root transformed portion
- Pooled estimates were obtained using a random effects model
- Heterogeneity and publication bias were assessed

Retroflexion and All Polyp Detection											
Study name Statistics for each study					Ever	Event rate					
	Event rate	Lower limit	Upper limit	p-Value	and	95% Cl					
Cutler 1999	0.018	0.009	0.036	0.000		-++-					
Varadarajulu 2007	10.027	0.017	0.044	0.000		<u>+</u>					
Hanson 2001	0.026	0.015	0.045	0.000							
Saad 2008	0.004	0.002	0.009	0.000		+					
Reddy 2010	0.006	0.003	0.011	0.000		+					
Tellez-Avilla 2014	0.008	0.004	0.016	0.000							
	0.012	0.006	0.023	0.000							
					-0.05 -0.03 0	.00 0.03 0.0	5				

#### **Retroflexion and Adenomatous Polyp Detection**

Study name			Event rate
	Event Lowe rate limi	er Upper t limit	and 95% Cl
Cutler 1999	0.001 0.00	0 0.018	┝──
Varadarajulu 200	010.010 0.00	5 0.022	
Hanson 2001	0.009 0.00	3 0.023	
Saad 2008	0.001 0.00	0 0.005	
Reddy 2010	0.000 0.00	0 0.005	
Tellez-Avilla 201	4 0.004 0.00	2 0.012	
	0.004 0.00	1 0.009	
		-0	0.05 -0.03 0.00 0.03 0.05

## RESULTS

- Six studies were included in our analysis (N=5482)
- · All the studies were prospective observational studies
- The pooled event rate for the detection of polyps on rectal retroflexion compared to forward view was 1.2% (95% CI: 0.6%-2.3%, p<0.0001)</li>
- The total number of successful rectal retroflexions performed was 5339 out of 5482 attempted or considered (Success rate 97.3%)
- The detection rate of tubular adenoma or tubulo-villous adenoma revealed a statistically significant higher detection in the retroflexion group compared to forward view with a pooled event rate 0.4% (95% CI: 0.1%-0.9%, p=0.009)

## CONCLUSION

• Rectal retroflexion is an easy maneuver with a high success rate that could potentially increase the detection of adenomatous polyps in the rectum.

#### REFERENCES

- Corley DA, Jensen CD, Marks AR, et al. Adenoma detection rate and risk of colorectal cancer and death. N Engl J Med. 2014;370(14):1298-1306
- 2. Cohen J, et al. The Effect of Right Colon Retroflexion on Adenoma Detection: A Systematic Review and Metaanalysis. J Clin Gastroenterol. 2017;51(9):818-824