

How to Improve Adenoma Detection - Through better Technique

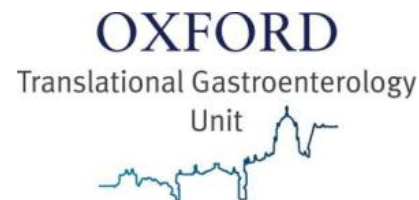
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QUALITY IN ENDOSCOPY

COLONOSCOPY &
COLONIC NEOPLASMS

Berlin, Germany May 4 - 5, 2012

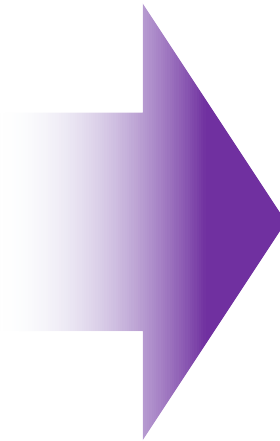


www.quality-in-endoscopy.org

Overview

1. Bowel Preparation
2. Withdrawal time
3. Position Changes
4. Anti-spasmodics
5. Rectal retroflexion

Colonoscopy: Changing times



Colonoscopy outcomes

	All Cancer	Right-Sided Cancer	Left-Sided Cancer
Attempted colonoscopy			
None	1.00	1.00	1.00
Any	0.69 (0.63–0.74)	1.07 (0.94–1.21)	0.39 (0.34–0.45)

	Proximal cancers		Distal cancers	
	OR (95% CI)	P value	OR (95% CI)	P value
% Polypectomy for endoscopist				
<10%	1.00 (referent)	.0001	1.00 (referent)	.39
10%–14%	1.11 (0.81–1.53)		0.99 (0.73–1.35)	
15%–19%	0.75 (0.54–1.04)		0.78 (0.57–1.06)	
20%–24%	0.75 (0.52–1.07)		0.82 (0.58–1.16)	
25%–29%	0.52 (0.35–0.79)		0.87 (0.61–1.24)	
30%+	0.61 (0.42–0.89)		0.79 (0.54–1.14)	

Baxter NN *et al.* Ann Intern Med. 2009;**150**:1-8.

Baxter NN *et al.* Gastroenterology 2011;**140**:65–72

Variation in detection

- 10-fold for adenomas all sizes¹
 - 0.1-1.05 adenomas per patient
- 3-4 fold for adenomas $\geq 10\text{mm}^2$
- Cancer miss rates³
 - 3.0% vs 5.6% missed/new within 3 years



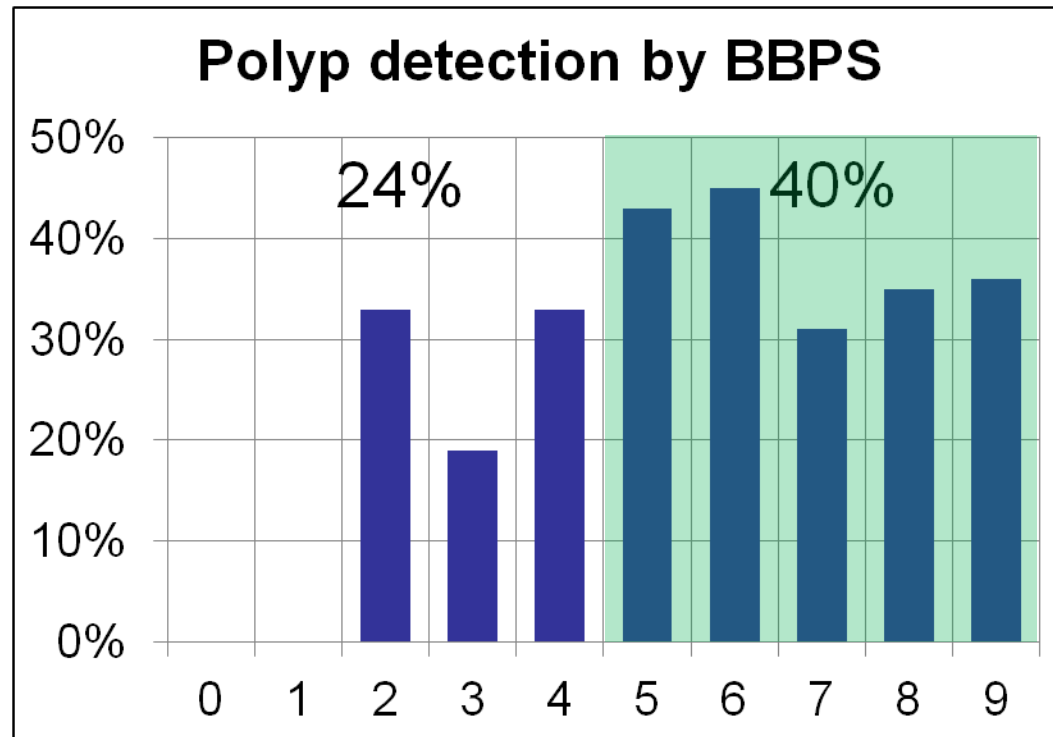
¹ Barclay R *et al.* N Engl J Med 2006; 355:2533-2541

² Chen SC *et al.* Am J Gastroenterol 2007;102:856-61

³ Bressler B *et al.* Gastroenterology 2007;132:96-102

Bowel preparation

- Boston Bowel Prep Score
 - **Post**-colonoscopist cleaning efforts
 - 0-3 for 3 colonic segments
 - Validated



Lai EJ *et al.* *Gastrointest Endosc* 2009;**69**:620-5

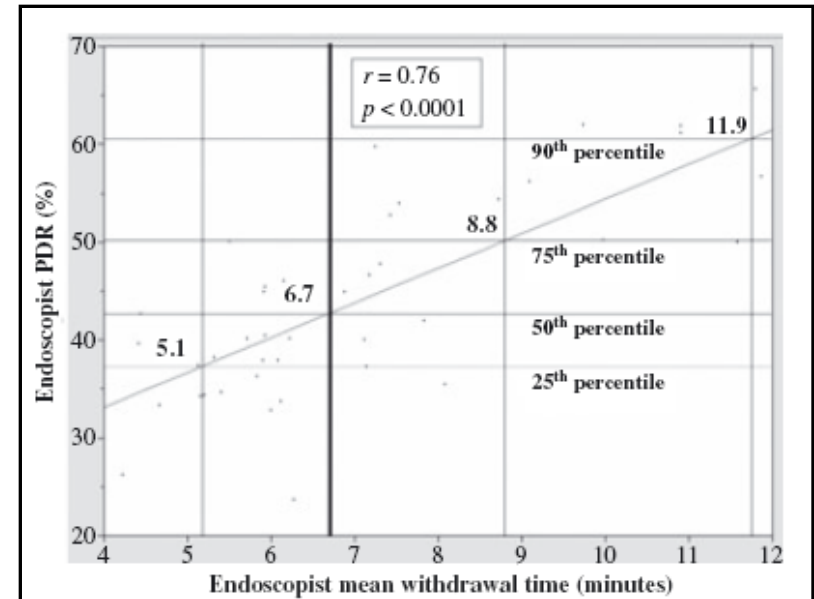
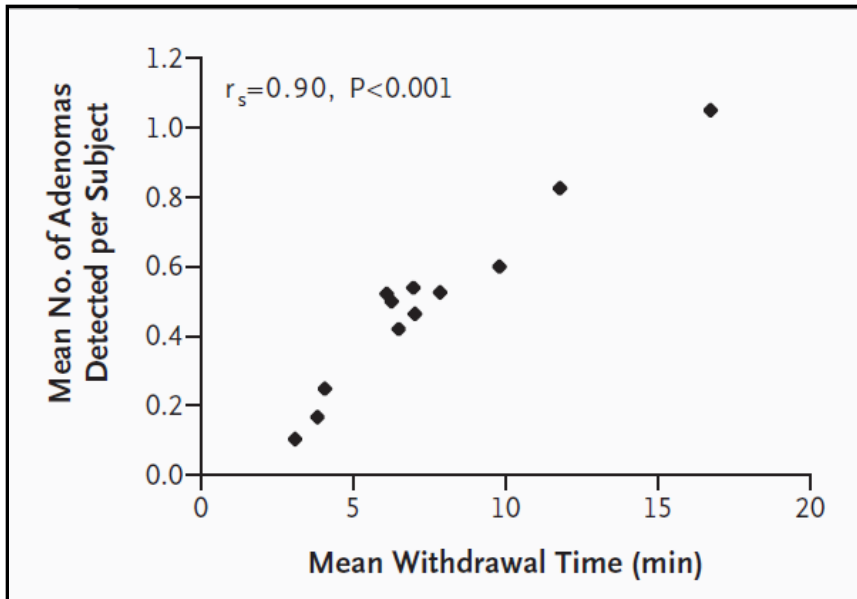
Operator factors

Blinded video review withdrawal technique

- Two experienced operators:
 - 48% miss rate *versus* 17% miss rate¹
 1. examining the proximal sides of flexures & folds
 2. cleaning and suctioning
 3. adequacy of distension
 4. adequacy of time spent viewing

¹ Rex DK. Gastrointest Endosc 2000;**51**:33-36

Withdrawal time



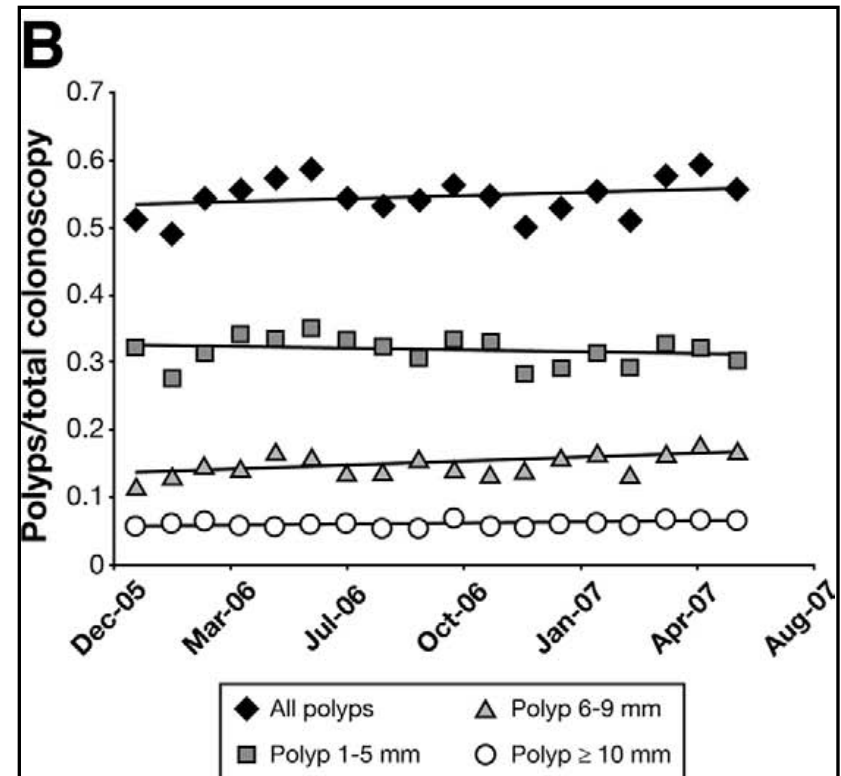
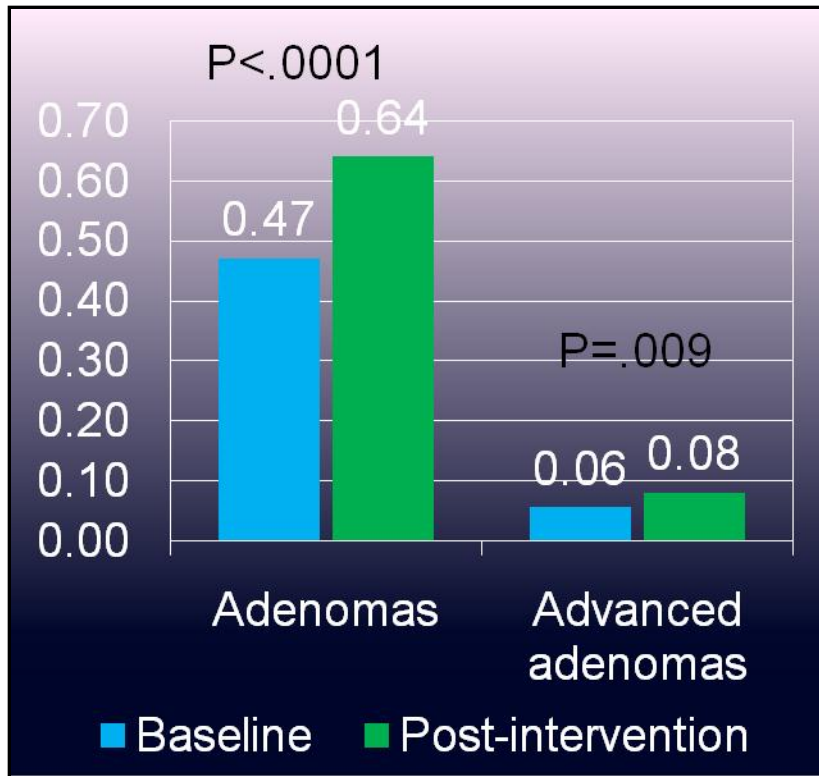
“In all models, only mean procedure time was associated with polyp detection rates”

Imperiale TF *et al.* *Gastrointest Endosc* 2009;69:1296-8

Barclay R *et al.* *N Engl J Med* 2006; 355:2533-2541

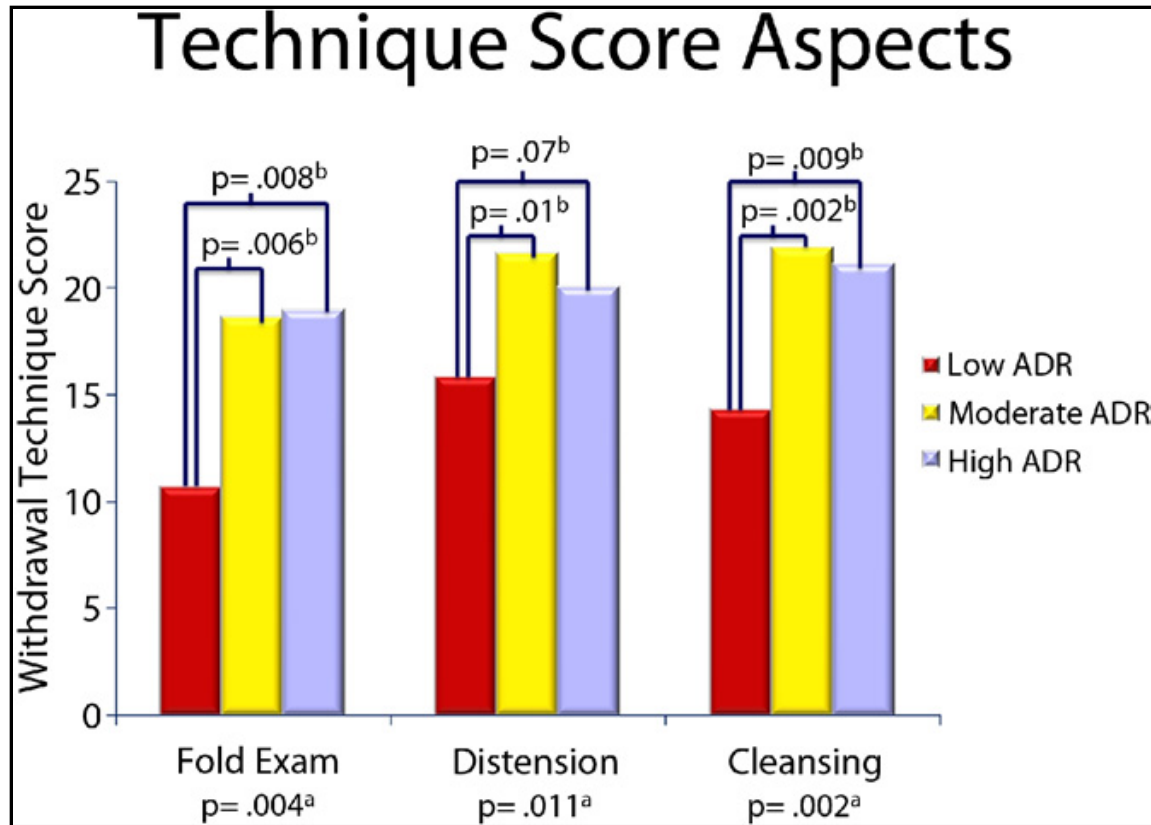
Simmons DT *et al.* *Aliment Pharmacol Ther* 2006;24:965-71

Extending withdrawal



Barclay R *et al.* Clin Gastroenterol Hepatol 2008;6:1091-8
 Sawhney M *et al.* Gastroenterology 2008;135:1892-8

“What you do with the time...”



- Highest ADR vs lowest ADR operator
 - Withdrawal time same: 6.6 vs 7.4 mins, P=0.36
 - Technique score 36 vs 63, P<0.001

Lee RH *et al.* *Gastrointest Endosc* 2011;**74**:128-34

Barium Enema



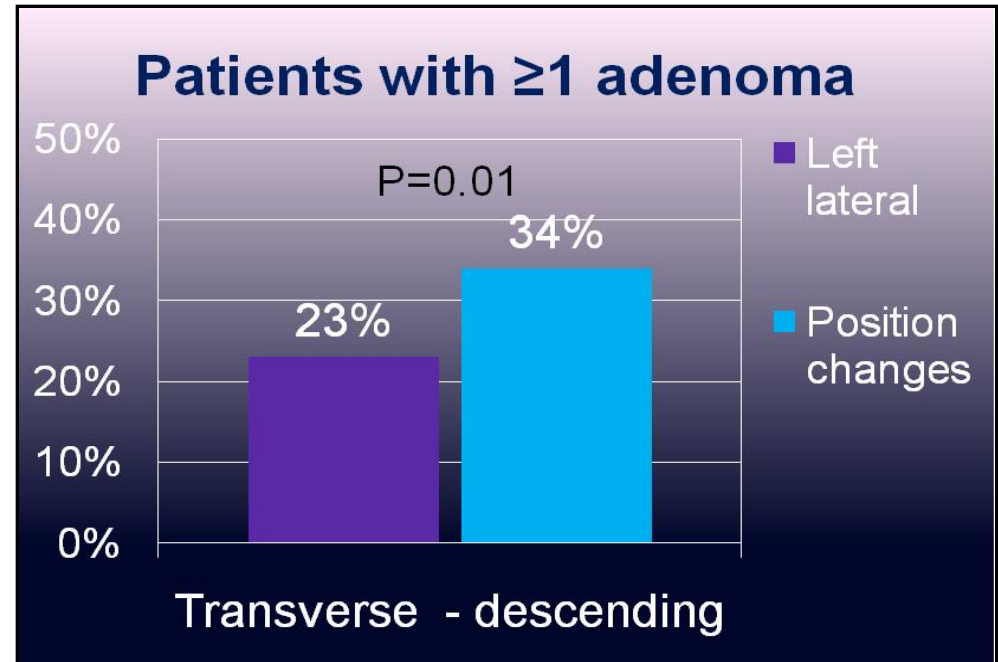
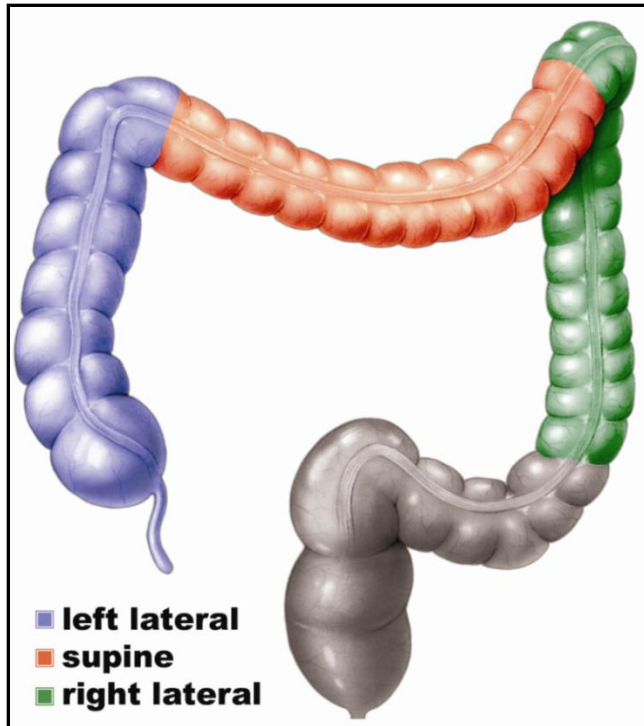
Left Lateral



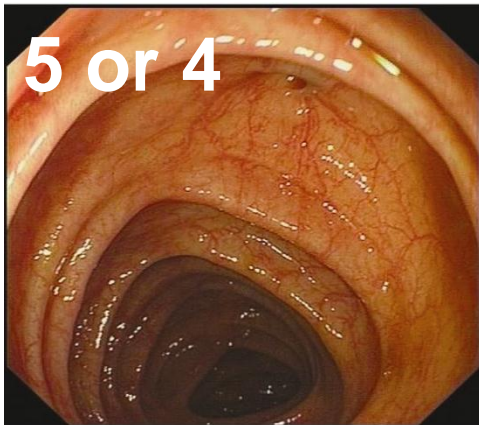
Right lateral

Rubessin SE *et al.* Radiology 2000;**215**:642-650

Dynamic Position Changes



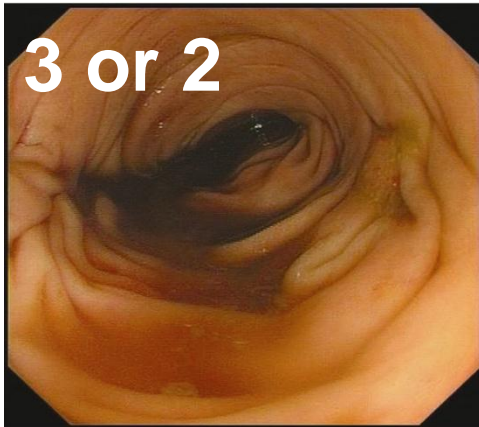
East JE *et al.* *Gastrointest Endosc* 2011;**73**:456-63



Luminal Distension

16%

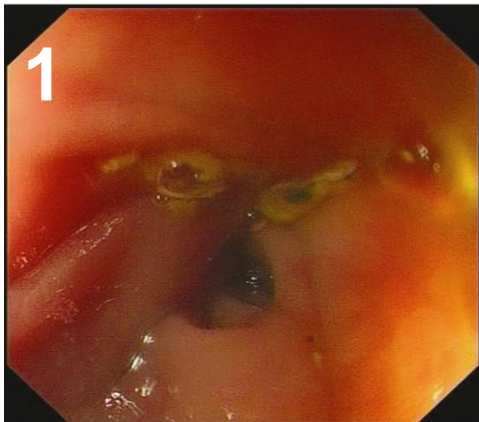
- Improved with dynamic position changes



- Adenoma detection improved with better luminal distension

$P < 0.001$

7%



East JE *et al.* *Gastrointest Endosc* 2007;**65**:263-69

Antispasmodics

- Antispasmodics are used by 20% UK colonoscopists¹
 - Hyoscine N-butylbromide (Buscopan)
 - Glucagon
- Potentially flatten haustral folds revealing more colonic mucosa
- Reduce spasm
- No improved polyp detection with glucagon²

¹Bowles CJ *et al.* Gut 2004;**53**:277-83

²Cutler CS *et al.* Gastrointest Endosc 1995;42:346-50

Antispasmodics

Study	n=	Buscopan	Placebo	P value
De Brouwer GIE 2012	674	60.2%	55.9%	0.26
Corte UEGW 2012	601	43.6%	36.6%	0.08

- Spasm improved with Buscopan
 - If spasm severe PDR improved: 1.2 vs 0.4, P=0.06

Lee JM *et al.* Hepatogastroenterology 2010;**57**:90-4

Rectal retroflexion

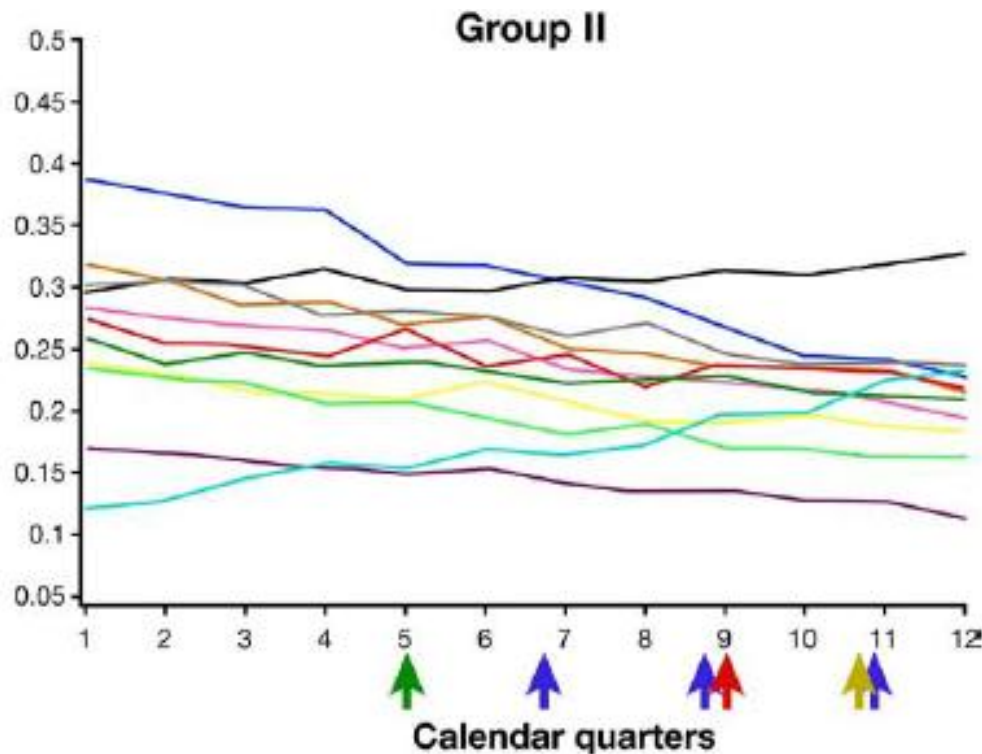
- Flexiscope trial (480 patients)¹
 - 12 (2.5%) polyps seen only on retroflexion
 - 4 adenomas (3 TAs <5mm, 1 x 15mm TVA)
- Large colonoscopy series (1502 cases)²
 - 40 (2.7%) had a distal rectal polyp
 - 8 retroflexed view only
 - 1 x 4mm tubular adenoma



¹Hanson J *et al.* Dis Colon Rectum 2001;**44**:1706-82

²Saad A *et al.* World J Gastroenterol 2008;**14**:6503-5

Continuous Quality Improvement



- adenoma detection rates presented at a group retreat
- own adenoma detection rate with benchmarking
- unblinded data were discussed at group meeting.
- discussion with practice leaders

Shaukat A *et al.* Clin Gastro Hep 2009;7:1335-1340

Key messages

- Operator technique has a large impact on polyp detection
- Conclusive level 1a evidence is lacking for most interventions suggested
- “What you do with your withdrawal time...” rather than time itself
- Changing established practice most difficult issue