

# IMPACT OF ADENOMA SURVEILLANCE GUIDELINES ON THE FUTURE DEMAND OF COLONOSCOPIES ASSOCIATED TO A POPULATION-BASED COLORECTAL CANCER SCREENING PROGRAM

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## OBJECTIVES

Recent European guidelines recommend colorectal cancer screening of average-risk population. Besides colorectal cancer, adenomas are found. Adenomas deserve surveillance through colonoscopy, but there is no clear recommendation on its frequency and several guidelines are proposed. Our objective was to estimate the colonoscopy demand to undergo recommended surveillance of adenomas found under a population-based colorectal cancer screening program following three different guidelines.

## METHODS

A previous discrete-event simulation representing a colorectal cancer screening program for a target population of 100,000 women and men aged 50 to 69 years was used to account for resources at the follow-up phase after screening. The underlying conceptual model was based on the European Guidelines for quality assurance in colorectal cancer screening for the screening process. For follow-up after adenoma removal, three guidelines were implemented and compared: that of the Catalan Society of Gastroenterology (figure 1), that of the European Society of Gastrointestinal Endoscopy and that of the US Multi-Society Task Force. The differences among guidelines are shown in table 1. Parameters were estimated from the Colorectal Cancer Screening Program of Barcelona (Spain) and follow-up colonoscopy results from the literature. A 10-year horizon starting in 2015 was simulated. The model included the population ageing and projections

Figure 1: Conceptual model for follow-up of adenomas according to the Catalan Society of Gastroenterology guidelines.

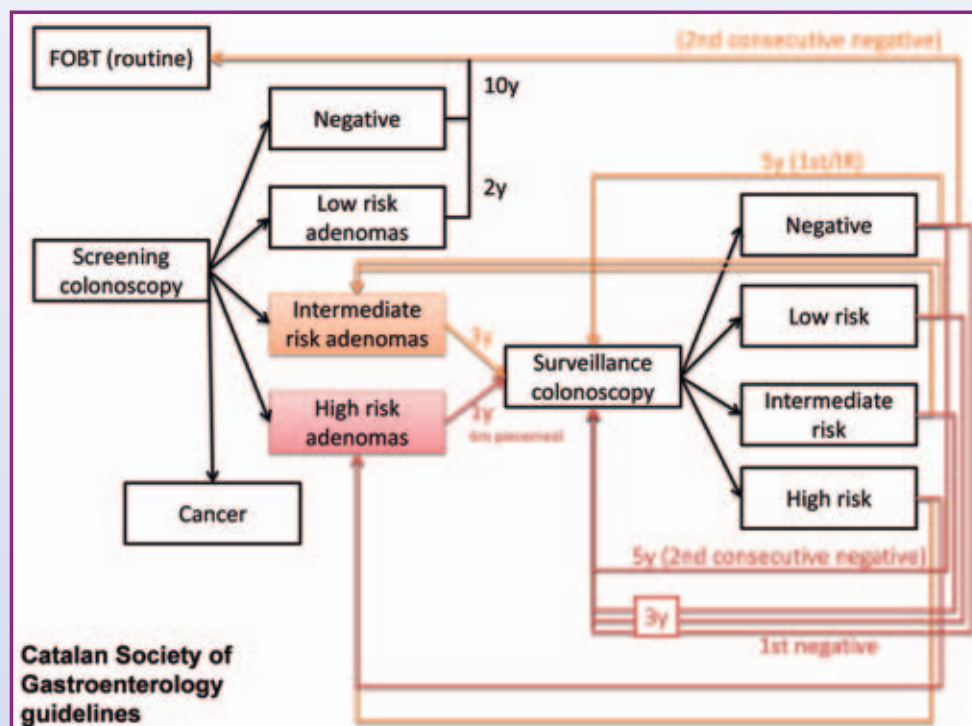


Table 1: Main differences among the three guidelines.

Result at screening	Follow-up		
	Catalan Society of Gastroenterology	European Society of Gastrointestinal Endoscopy	US Multi-Society Task Force
Negative	Routine FIT screening at 10 years	Routine FIT screening at 10 years	No recommendation
Low risk adenomas	Routine FIT screening at 2 years	Colonoscopy at 10 years	Colonoscopy at 10 years
Intermediate risk adenomas	Colonoscopy at 3 years	Colonoscopy at 3 years	Colonoscopy at 3 years
High risk adenomas	Colonoscopy at 1 year	Colonoscopy at 3 years	Colonoscopy at 3 years
Polyposis	Colonoscopy at 1 year	Colonoscopy at 3 years	Colonoscopy at 2 years

## RESULTS

The predicted 10-year cumulative number of colonoscopies is shown in table 2. The Catalan guideline resulted in 5% and 6% more colonoscopies than the European and the US guidelines, respectively ( $p < 0.001$ ). The number of colonoscopies after a positive FIT was similar ( $p = 0.681$ ), while the number of adenoma surveillance colonoscopies was higher for the Catalan guideline: 26.1% and 35.6% higher than the European and the US guidelines, respectively, while the European guideline presented a 7.5% more surveillance colonoscopies than the US guideline ( $p < 0.001$  in all pairs).

Table 2: Number of colonoscopies (mean and 95% confidence interval) by type and guideline.

Guideline	Number of colonoscopies [95%CI]		
	After a positive FIT	Adenoma surveillance	Overall
Catalan	13,053 [12,861;13,246]	3,127 [3,072;3,181]	16,180 [15,940;16,420]
European	12,936 [12,739;13,134]	2,479 [2,434;2,524]	15,415 [15,179;15,651]
US	12,961 [12,765;13,157]	2,305 [2,263;2,347]	15,266 [15,034;15,499]
p_value	0.681	<0.001	<0.001
p_value post hoc		all pairs $p < 0.001$	CAT vs EUR $p < 0.001$ CAT vs US $p < 0.001$ EUR vs US $p = 0.659$

## CONCLUSIONS

The choice of the surveillance guidelines for follow-up of adenomas found under a population-based colorectal cancer screening program is relevant in terms of its impact on the colonoscopy demand.