Recommendations for surveillance of adenomas

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- Surveillance

  - monitoring patients who earlier underwent endoscopic polypectomy

Rationale for surveillance

- Majority of colorectal cancers arise from adenomas
- Endoscopic removal of adenomas – decreases incidence and mortality of colorectal cancer
- After this removal – within next 3-5 years – 20-50% will have metachronous neoplastic lesion
- Because of this fear – 25% of all colonoscopies are surveillance examinations

Reasons for occurence of metachronous lesions

- people who have adenomas are probably at higher risk of developing other adenomas and cancer
- missed polyps or incompletely removed adenomas– when quality of colonoscopy was not perfect

Incompletely removed adenomas

- 25% of cancers detected within 3 years of polypectomy

  - detected at site of previous polypectomy

Lieberman et al. 2007, Pabby et al. 2005

Endoscopic and histologic completeness should be ensured

Adherence to guidelines is poor

- 50% of gastroenterologists recommend 3 year follow-up in pts with single small adenoma removed
- 25% recommend colonoscopy after removal of hyperplastic polyp
- 52% recommend shorter intervals than recommended (fear, lack of knowledge, uncertainity, bowel prep insufficient)

Liebermann DA et al. Gastrointest Endosc 2005 / Mulder SA et al. J Clin Gastroenterol 2008

Aim of surveillance

- To avoid death from cancer
- To avoid cancer
- To avoid advanced adenoma

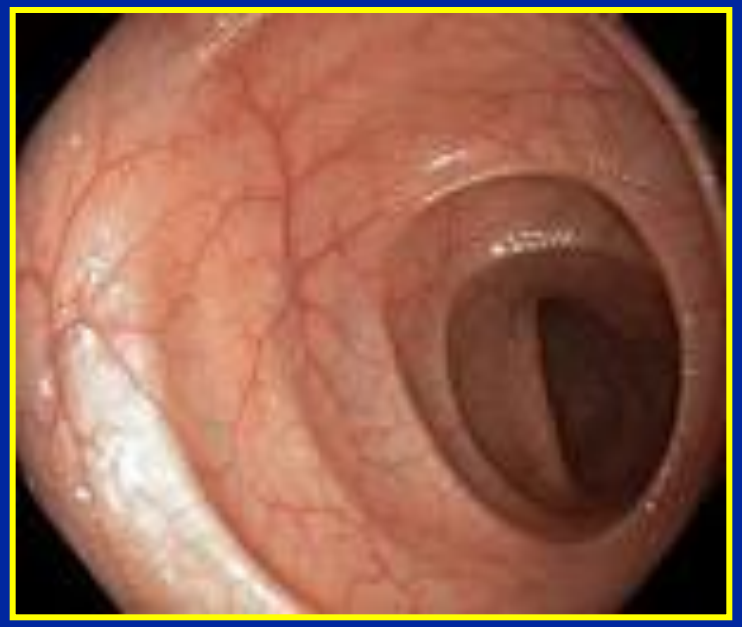
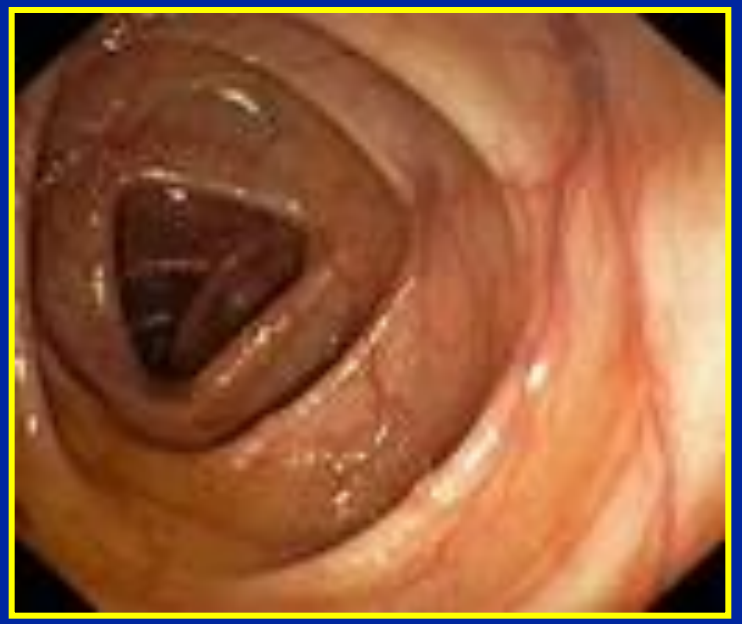
  (>1 cm, villous, HGD)

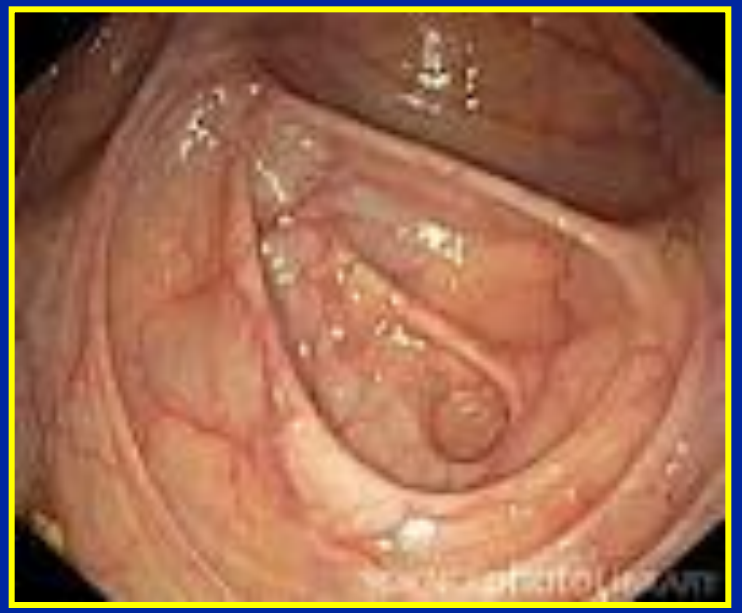
but not:

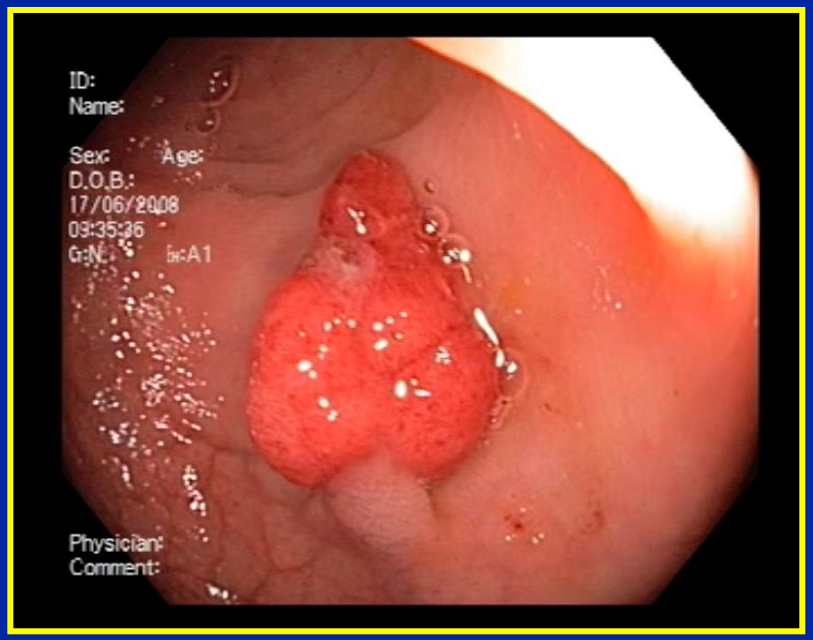
- just to pick up all even tiny polyps

Initial conditions of starting surveillance

- high quality colonoscopy (colonoscopist)
- very good bowel preparation (is info about that provided in colonoscopy report?)
- caecum reached (how proven?)
- all polyps removed (endoscopic and histologic completness?)
- histopathology of polyps known (all polyps?)

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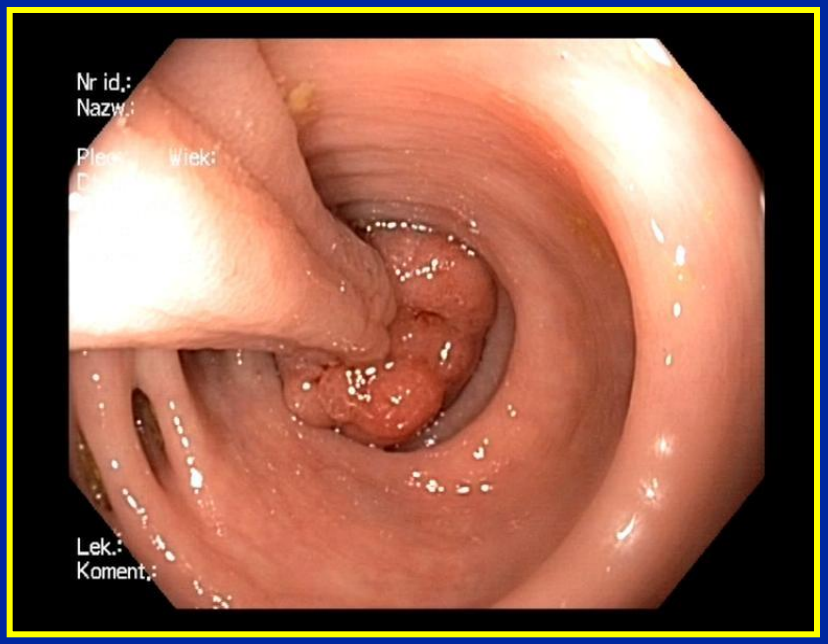
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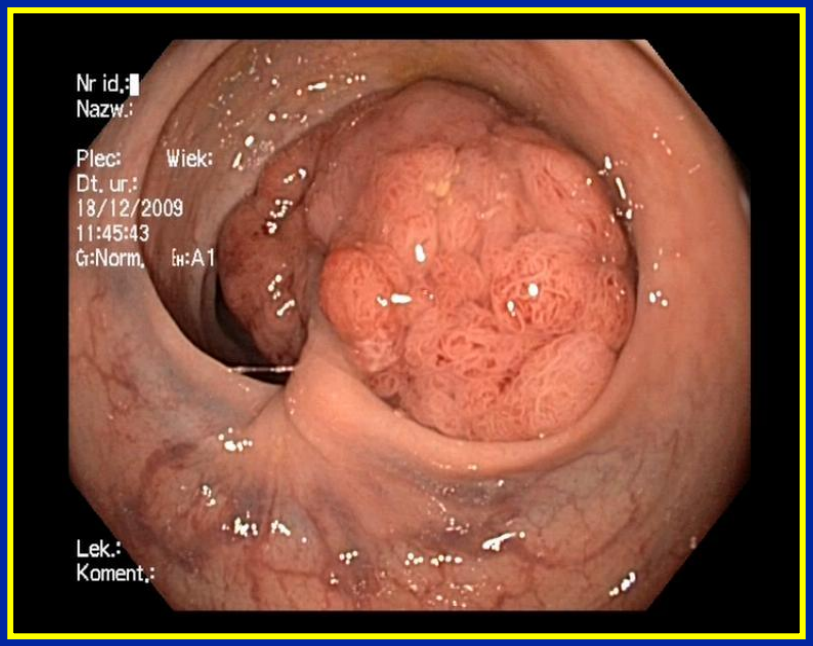
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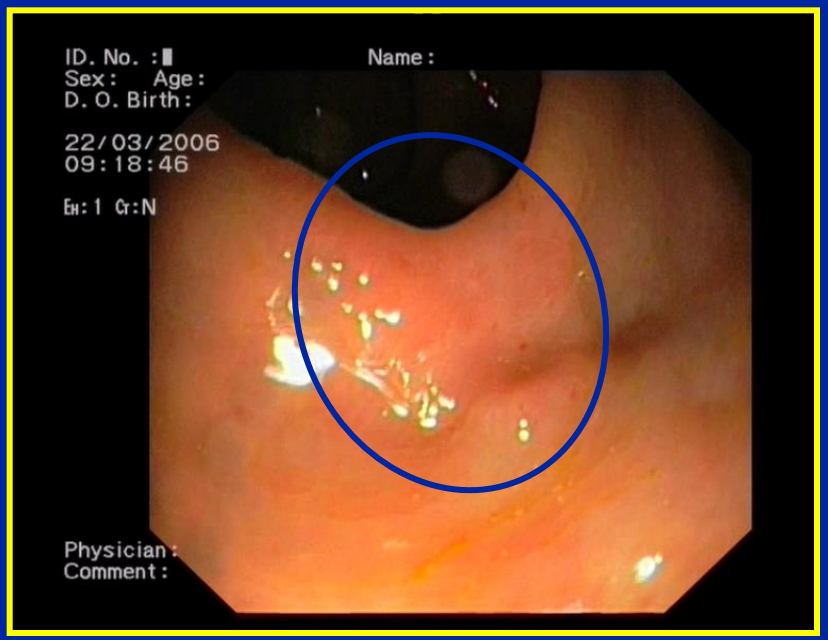
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Risk factors determining surveillance intervals

- Pooled data from 8 prospective US studies
- 9167 patients observed for median 47 months
- Advanced neoplasia – 11,8%
- Cancer 0,6%

Martinez et al., Gastroenterology 2009,136,832

Patients characteristics

- Age – important

  - but no influence on surveillance

- Male sex - important

  - but no influence on surveillance

- Family history – no consistant data

  - no influence on surveillance

Martinez et al. 2009

Polyps factors

- Number of adenomas
  - 3-4 adenomas - risk 2x higher
  - 5 or more - risk 4x higher
- Size of adenomas
  - 1-2 cm - risk 2x higher
  - >2cm - risk 3x higher

Martinez et al. 2009

Polyp factors

- Histology (villous)

  - in multivariate analysis – unsignificant predictor

- HGD

  - in multivariate analysis – unsignificant predictor

- Location

  - proximal location – risk 1,5-2,5 higher

    - no influence on surveillance

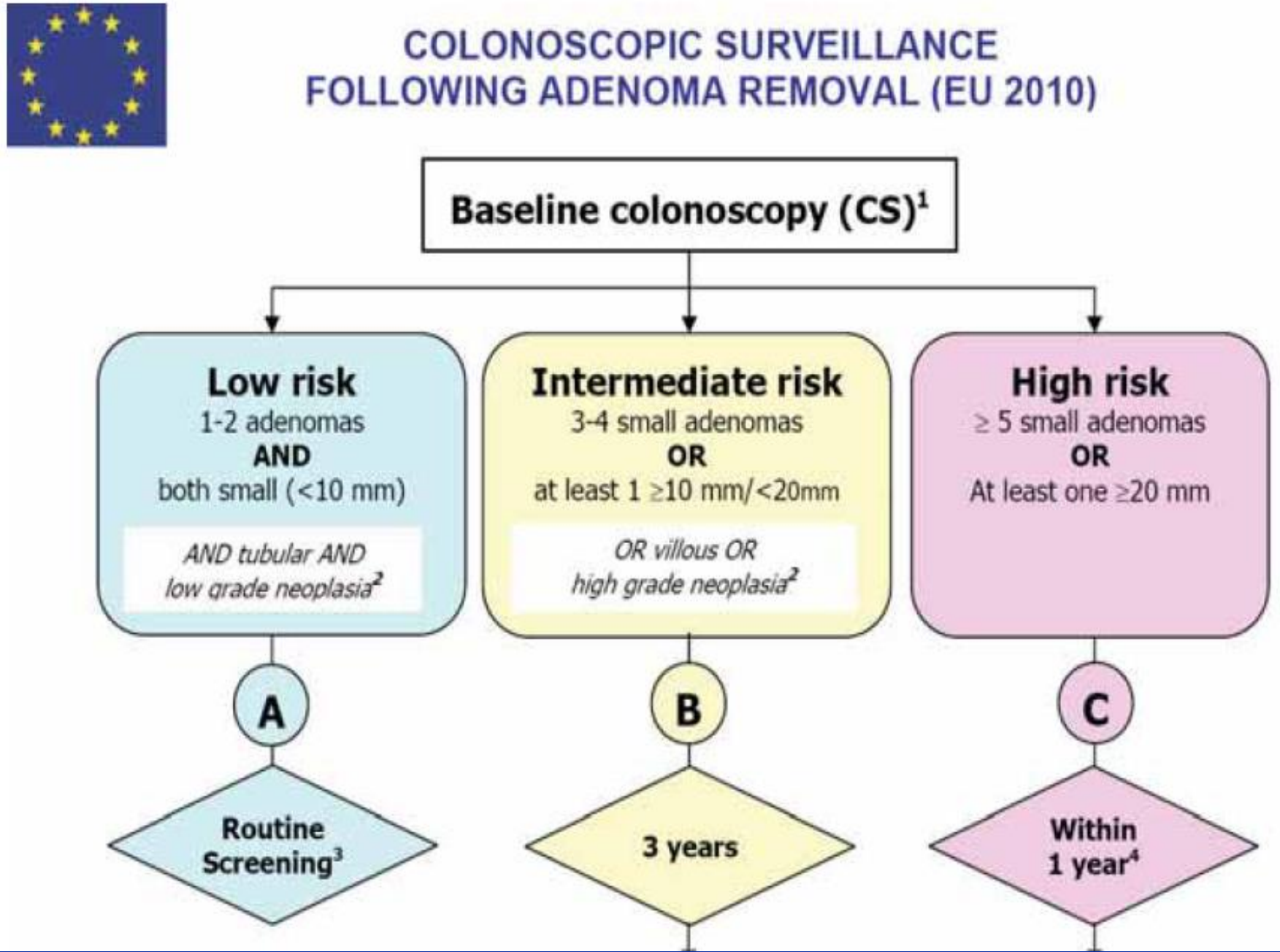
    Martinez 2009, Saini 2006, Lieberman 2007

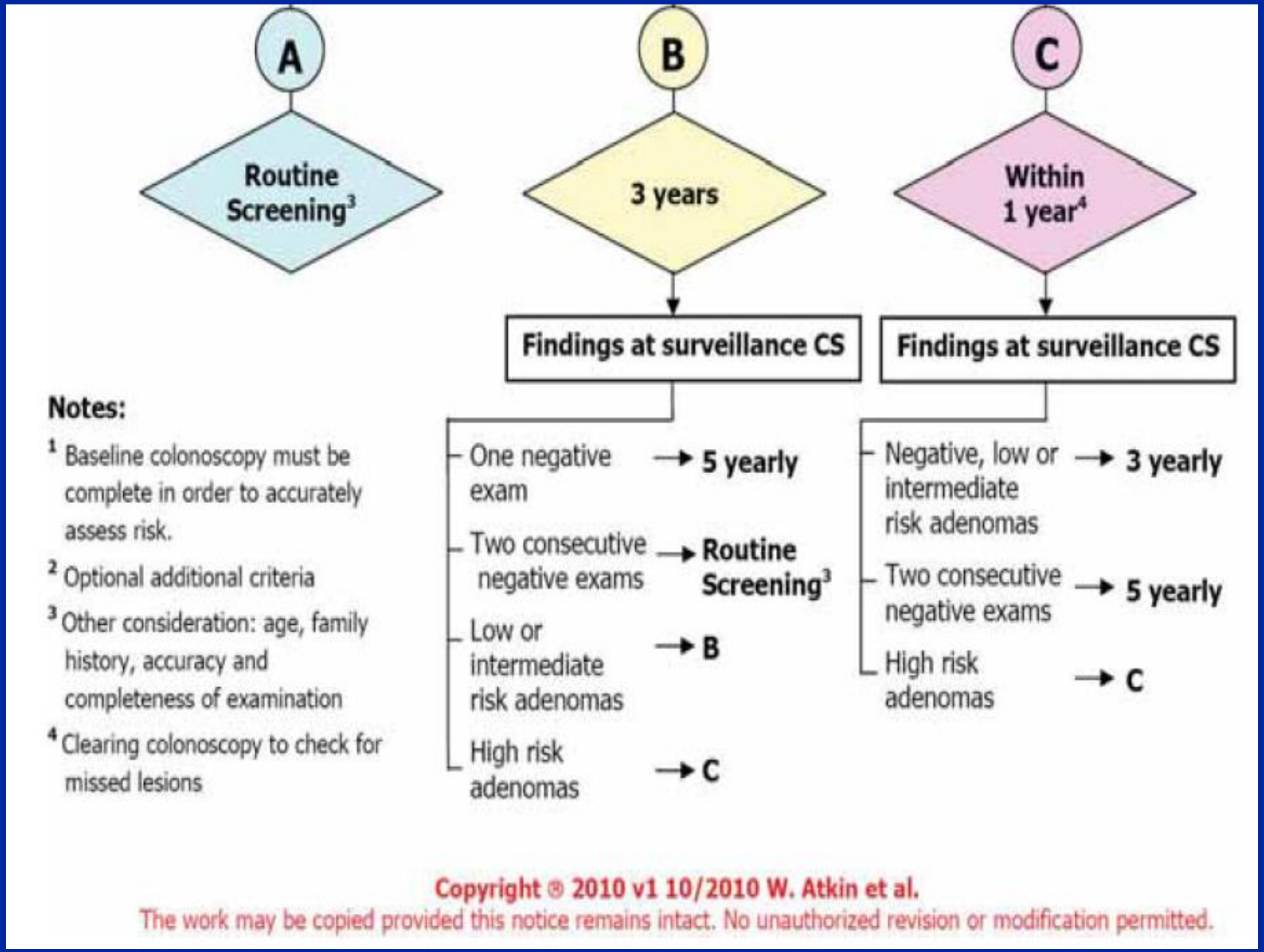
US guidelines

Baseline: Most advanced finding*	Recommended Interval	
No polyp	10 yrs	Low Risk
Hyperplastic, left-sided	10 yrs	
1-2 Tubular Adenomas <10mm	5-10 yrs	
3 or more tubular adenomas	3 yrs	Higher Risk
Tubular adenoma ≥10mm	3 yrs	
Villous adenoma (>25% villous)	3 yrs	
Adenoma with HGD	3 yrs	
>10 adenomas	<3 yrs	
Piecemeal resection	2-6 months	
Cancer	1 year	

Lieberman et al; Gastroenterology 2012; 143: 844-857

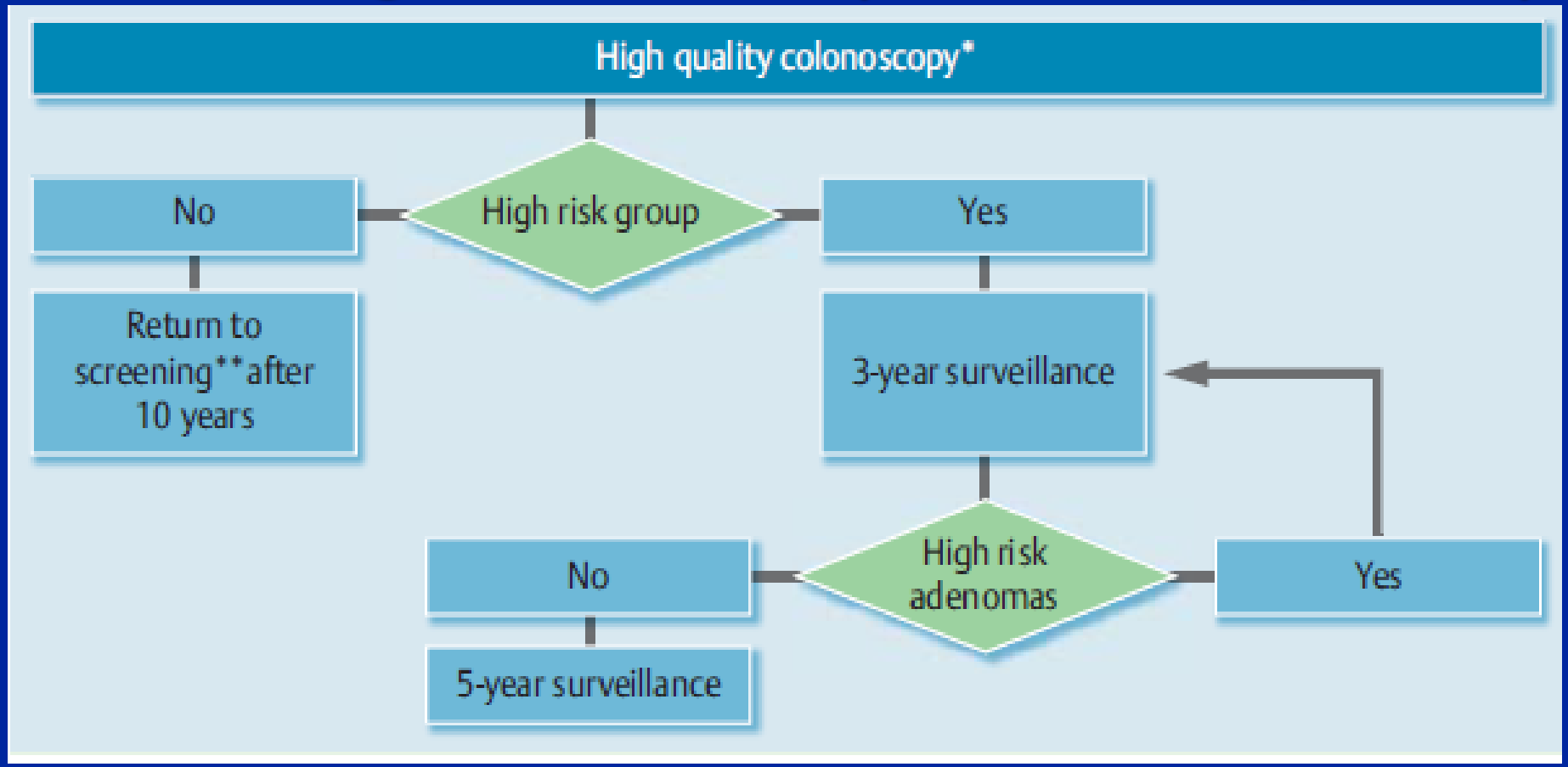
European guidelines





Atkin WS et al. Endoscopy 2012; 44 (suppl3)

ESGE guidelines (also European)



Hassan C et al. Endoscopy 2013;45:842

High risk group

- adenoma >= 10 mm
- HGD
- villous component
- >= 3 adenomas
- serrated adenoma >=10 mm or with dysplasia

Hassan C et al. Endoscopy 2013;45:842

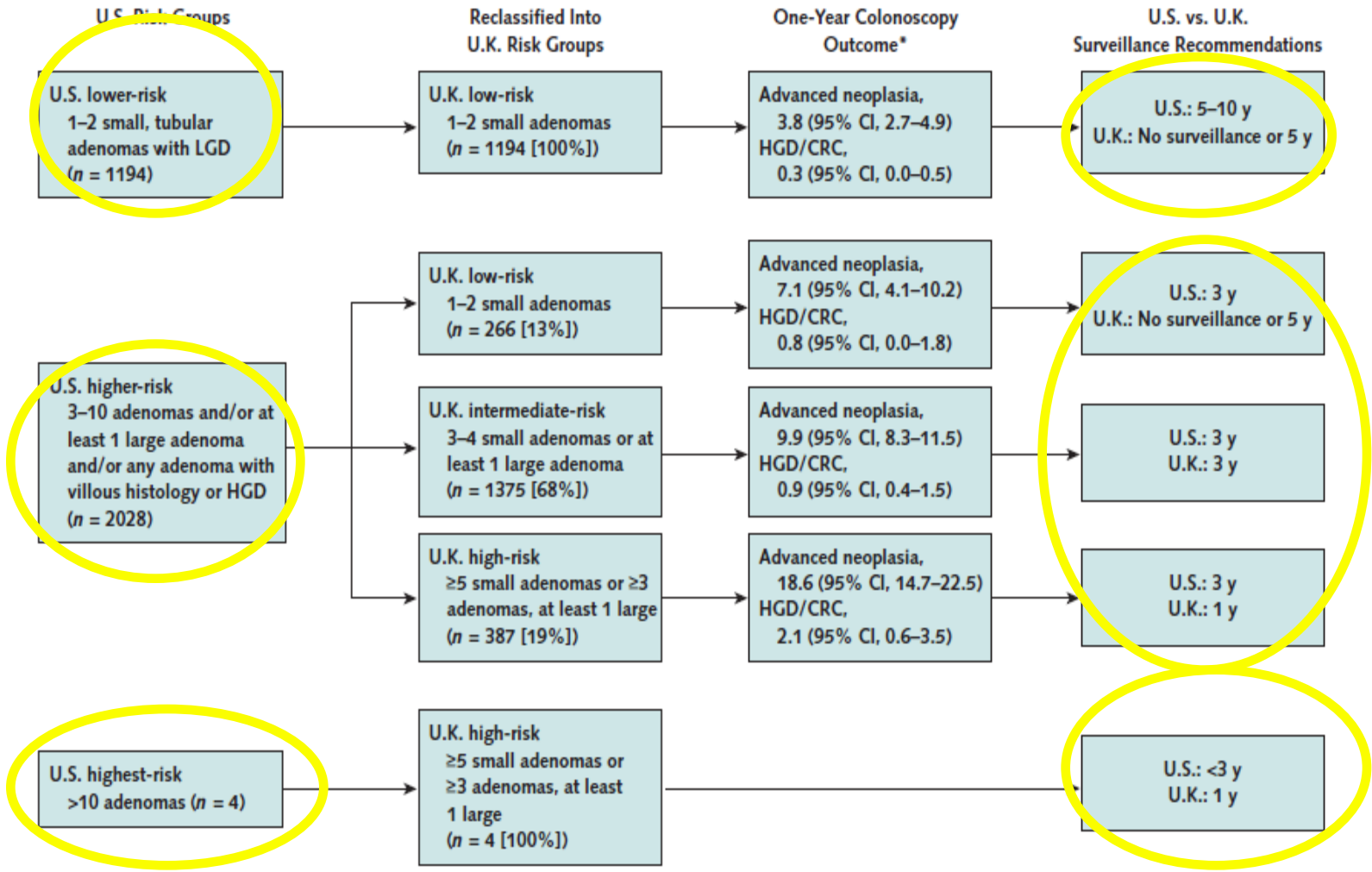
World guidelines – detailed differences

Recommendation for surveillance of different guidelines.

	Low-risk adenoma patients	High-risk adenoma patients	Serrated polyp patients
European Union guidelines [4]	Routine screening	1–3 years	No recommendation
United States multi-society task force [43]	5–10 years	3 years	3–5 years[a]
ESGE [44]	No surveillance	3 years	3 years[a]
British Society Gastroenterology [51]	No surveillance-5 years	1–3 years	No recommendation
Japan Society of Gastroenterology [68]	<3 years	<3 years	No recommendation
Cancer Council Australia [69]	5 years	3 years	No recommendation

Jover R, Dekker E. Best Practice and Research in Gastroenterology. 2016; 30: 937

Figure 2. Patients classified by U.S. colonoscopy surveillance risk groups, reclassified according to U.K. colonoscopy surveillance risk groups.



Martinez ME et al. Ann Intern Med 2012;157:856

Additional issues

- Repeat colonoscopy (do NOT start surveillance)
  - Insufficient bowel prep (use Boston Bowel Prep System)
  - Incomplete examination (not to the caecum)
  - Polyp seems to incompletely removed (any doubts)
- Stopping surveillance
  - Age (usually > 75 years) and comorbidities, or patients wish
- Symptoms suggestive of cancer
  - Earlier examination than scheduled

Cancer in adenoma

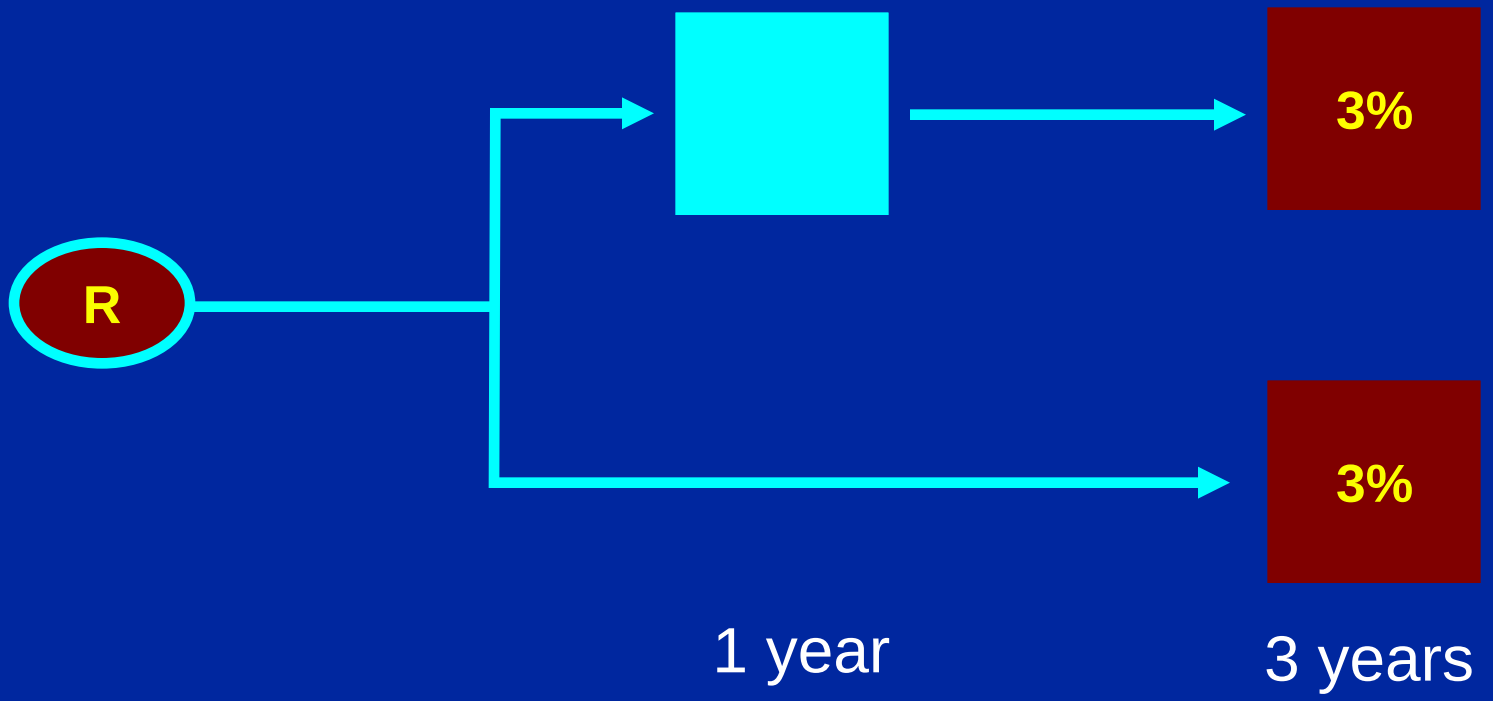
- Complete removal endoscopically and histologically and
- Margin at least 1 mm and
- Good or moderate differentiation and
- No lymphovascular invasion

Surveillance as high risk group

EU recommendations

The only high quality RCT on surveillance

Endopoint: advanced adenomas at follow-up



The New England
Journal of Medicine

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RANDOMIZED COMPARISON OF SURVEILLANCE INTERVALS AFTER COLONOSCOPIC REMOVAL OF NEWLY DIAGNOSED ADENOMATOUS POLYPS

SIDNEY J. WINAWER, M.D., ANN G. ZAUBER, PH.D., MICHAEL J. O'BRIEN, M.D., MAY NAH HO, M.S., LEONARD GOTTLIEB, M.D., STEPHEN S. STERNBERG, M.D., JEROME D. WAYE, M.D., JOHN BOND, M.D., MELVIN SCHAPIRO, M.D., EDWARD T. STEWART, M.D., JOEL PANISH, M.D., FRED ACKROYD, M.D., ROBERT C. KURTZ, M.D., MOSHE SHIKE, M.D., AND THE NATIONAL POLYP STUDY WORKGROUP*

FINDING	2 EXAMINATIONS (N = 338)	1 EXAMINATION* (N = 428)	RELATIVE RISK (95% CI)†	P VALUE
	no. (%) of patients			
Any adenoma detected	141 (41.7)	137 (32.0)	1.3 (1.1–1.6)	0.006
Adenoma with advanced pathological features‡	11 (3.3)§	14 (3.3)	1.0 (0.5–2.2)	0.99

WEO
World Endoscopy Organization

started 2015

participating countries

- Spain: 13 centres (Lead Alicante)
- Norway: 11 centres (lead Oslo)
- Netherlands: 8 centres (Lead Amsterdam)
- Poland: 4 centres (Lead Warsaw)
- Denmark: 4 centres (Lead Aarhus)
- Sweden: 4 centres (Lead Karolinska)
- Portugal: 3 centres (Porto)
- Austria: 1 centre (Lead Vienna)

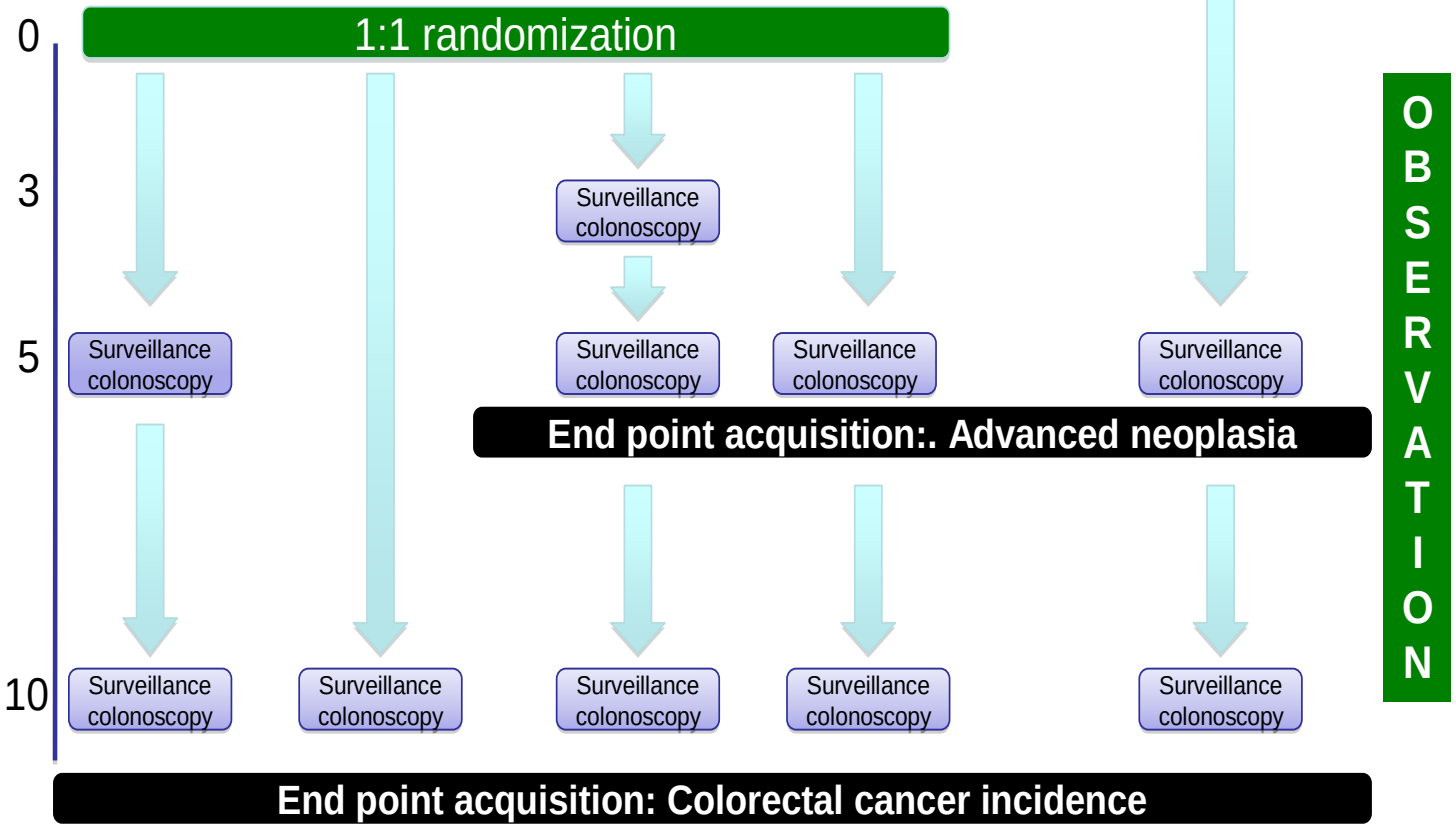
EPoS trials
European Polyp Surveillance

Baseline colonoscopy (all polyps removed)

EPoS I
Low risk adenomas
13,746 patients

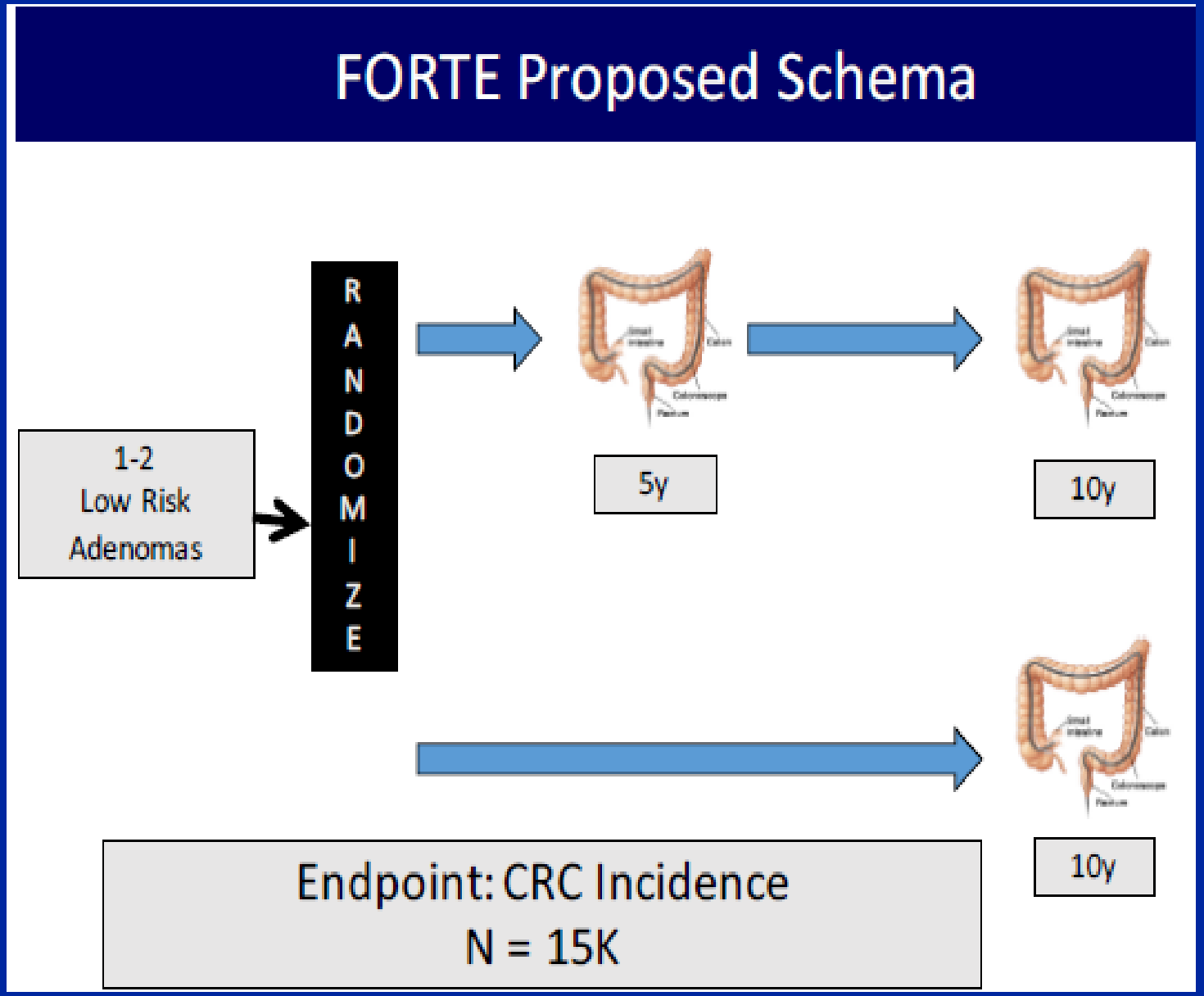
EPoS II
High risk adenomas
13,704 patients

EPoS III
Serrated polyps



Jover R, Bretthauer M et al. Endoscopy 2016,48:571

US RCT to start in 2018



Summary

- Multiple guidelines exist
- Lack of high quality RCT with CRC as endpoint
- Basis for gudelines are weak
- Surveillance uses too much resources
- Inital colonoscopy must of highest quality

What to do currently in practice (conclusions)

- Chose one guideline in your respective country
- Follow it in clinical practice
- Always mention which guidelines you are using
- Avoid shortening intervals
- Assess quality of index colonoscopy
- Guidelines WILL CHANGE – in the future