



QUALITY IN ENDOSCOPY

ESGE / ESDO SYMPOSIUM

COLONOSCOPY &
COLONIC NEOPLASMS

Prague, Czech Republic April 17-18, 2015

Surveillance: who & when?

Session No 1

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AMC
the Netherlands



Prevention of CRC

In average risk population: **screening**

In high-risk population: **surveillance**

Previous adenomas & CRC

Previous serrated polyps

Hereditary & familial CRC

Longstanding IBD

? Acromegaly, body radiation

Prevention of CRC

In high-risk population: **surveillance**

Previous adenomas & CRC

Previous serrated polyps

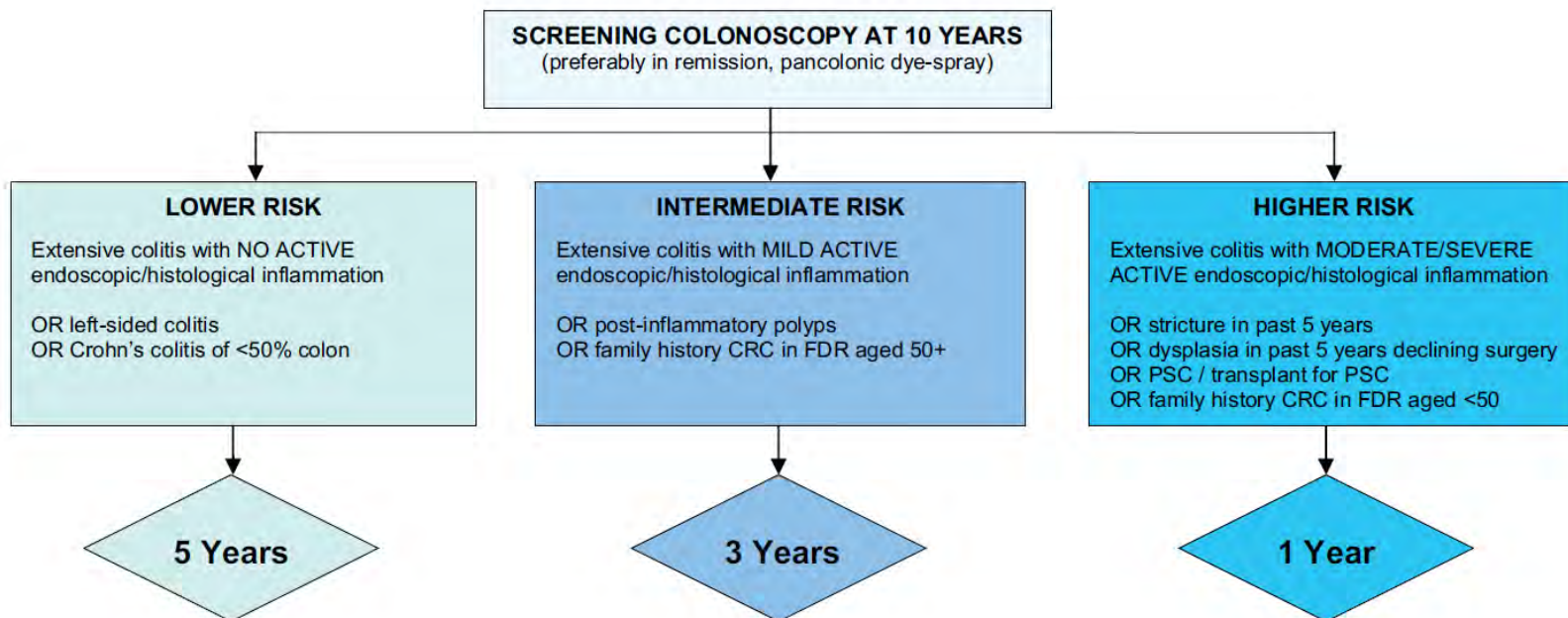
Hereditary & familial CRC

Longstanding IBD

? Acromegaly, body radiation

Longstanding UC

COLITIS SURVEILLANCE



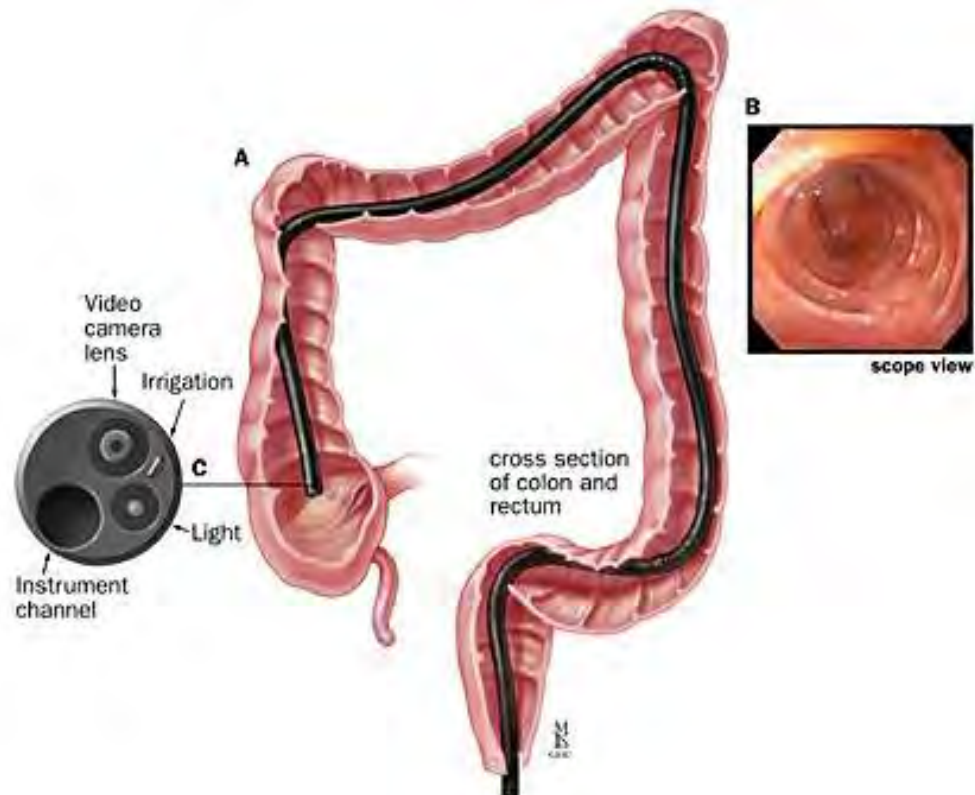
BIOPSY PROTOCOL

Pancolonial dye spraying with targeted biopsy of abnormal areas is recommended, otherwise 2-4 random biopsies from every 10 cm of the colorectum should be taken

OTHER CONSIDERATIONS

Patient preference, multiple post-inflammatory polyps, age & comorbidity, accuracy & completeness of examination

Surveillance: only one optimal method





But..

Colonoscopy has

- Burden for patient

- Complication rate

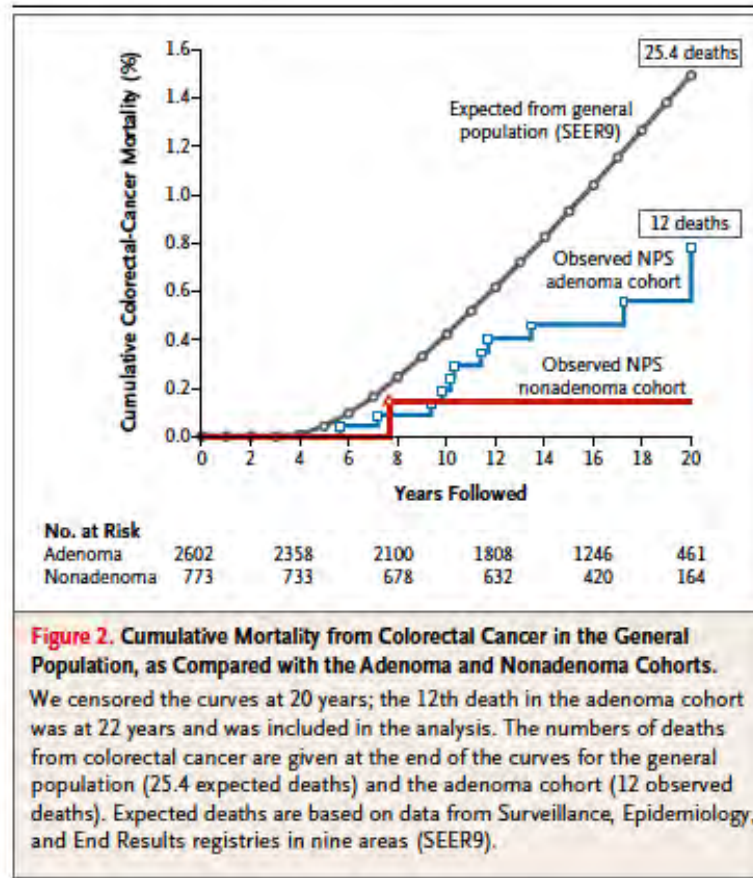
- High costs

- Capacity need

Most countries have screening programs for average risk persons

Risk-stratification!

Polypectomy of *adenomas*



Post-colonoscopy cancers

Related to:

Polyp miss-rate: quality of colonoscopy

ADR, cecal intubation, bowel prep, etc

Completeness of polypectomy

10.1% of polypectomies is incomplete*!

Appropriate surveillance interval

**Pohl, Gastro 2013*

Surveillance interval

Based on:

Risk of having missed/left polyps

Quality of colo: if low, reduce interval

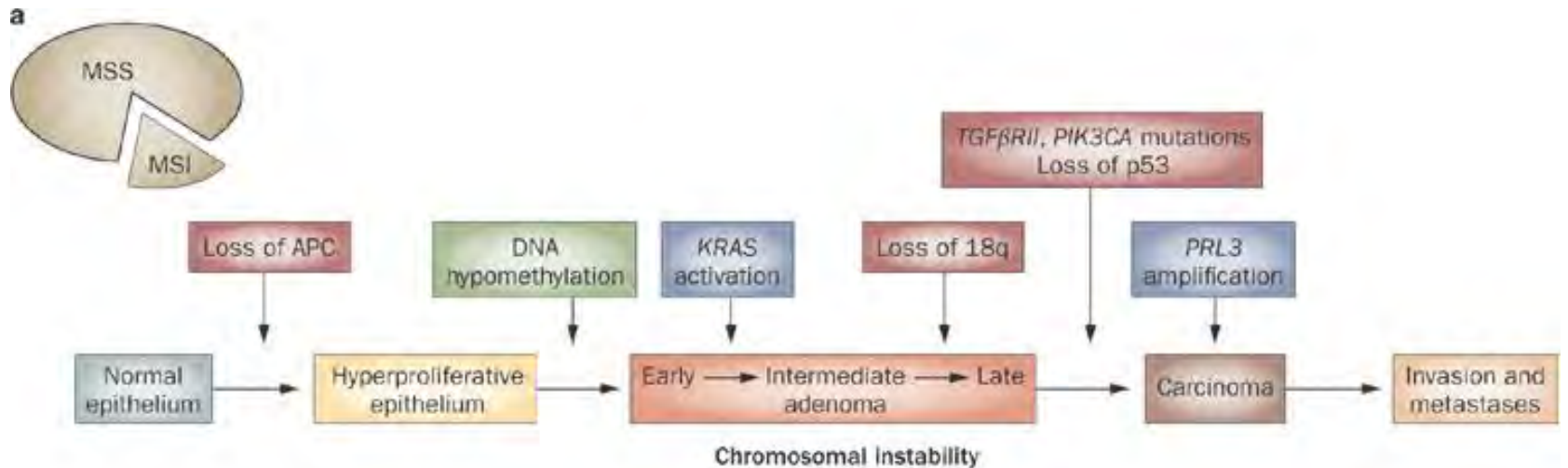
Number of polyps: if many, chance of missed polyp greater

Completeness of polypectomy: if piecemeal, surveillance
4-6 months

Chance of finding *new* polyps

Pathways to cancer

Traditional adenoma-carcinoma pathway

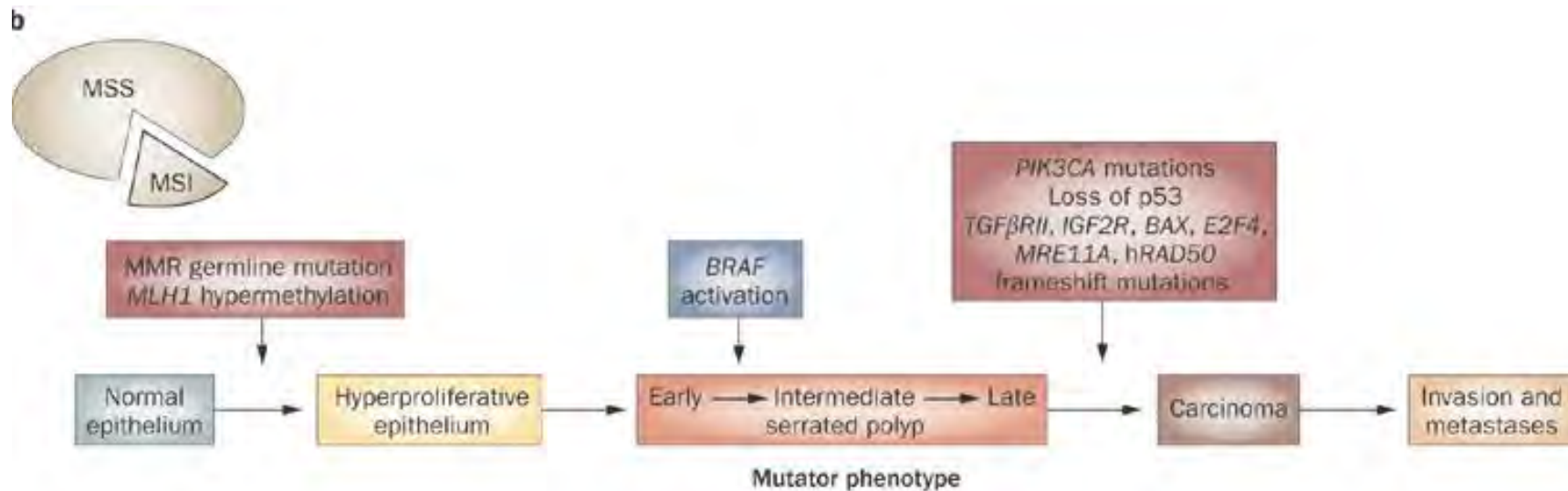


Old studies:

Only 1 in 20 adenomas will develop in cancer

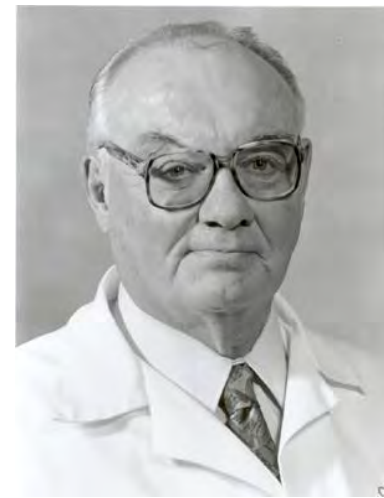
Slow progression: 10-15 years

Exception: microsatellite instable cancers



Adenoma-carcinoma sequence much faster!

Lynch syndrome



Autosomal dominant disease

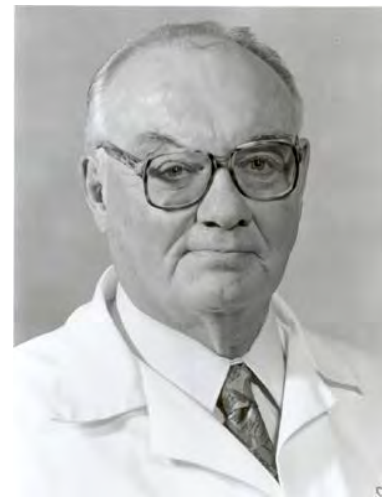
Germline-mutation in DNA-mismatch repair genes
(MLH-1, MSH-2, MSH-6, PMS-2)

Tumours: MSI-high and MMR-protein loss

Life-time risk CRC 50-80%

Average age CRC 48 yrs

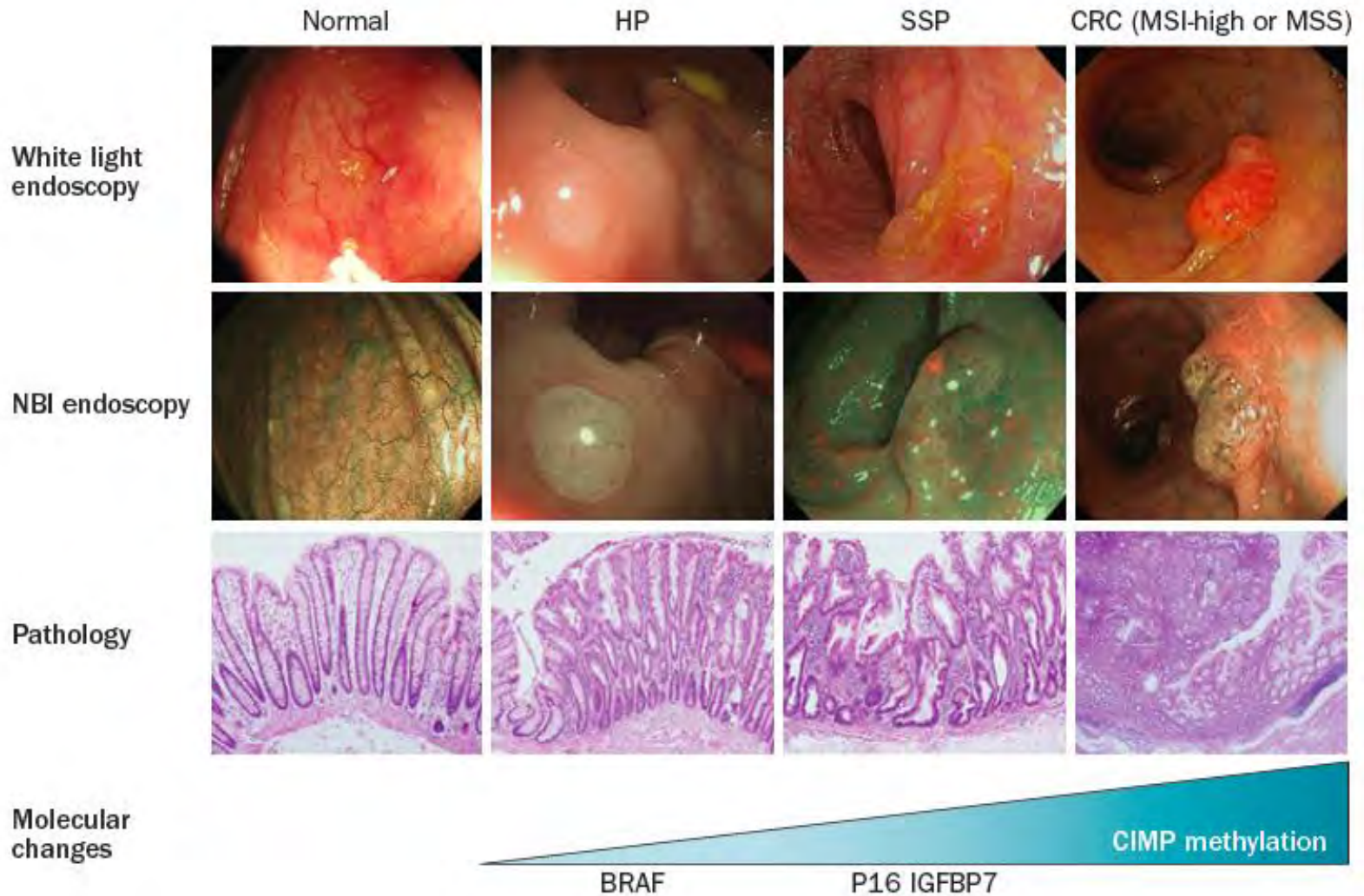
Lynch syndrome



Few polyps, no polyposis
Often missed diagnosis..

Accelerated adenoma-CRC pathway: 3-5 yrs!
Indication for 2-yearly colonoscopy

Not only adenomas but also serrated polyps!



Surveillance intervals

After polypectomy



Surveillance intervals

No prospective randomized controlled trials!

Martinez et al.	Pooled analysis of 8 prospective studies (N=9,167)
SAP-study (van Heijningen et al.)	Multicenter study (N=2,990) Cost-effectiveness analysis
Loberg et al	Linkage of the Cancer Registry and the Cause of Death Registry (N=40,826)

Martinez, Gastroenterology 2009; van Heijningen, Gastroenterology 2013; Loberg, NEJM 2014

European surveillance guideline 2013

Post-polypectomy colonoscopy surveillance: European Society of GI Endoscopy (ESGE) guideline

Hassan C, Quintero E, Dumonceau JM, Regula J, Brandão C, Chaussade S, Dekker E, Dinis-Ribeiro M, Ferlitsch M, Gimeno-García A, Hazewinkel Y, Jover R, Kalager M, Loberg M, Pox C, Rembacken B, Lieberman D; European Society of Gastrointestinal Endoscopy.

Endoscopy. 2013 Oct;45(10):842-51.

European surveillance guideline 2013

Adenomas: low-risk group vs high risk group
Serrated polyps



European surveillance guideline 2013

Low-risk group:

1-2 tubular adenomas with LGD

Advice:

Populationscreening after 10 years from index-colonoscopy *or* colonoscoy after 10 years

European surveillance guideline 2013

High-risk group:

Adenomas with villous histology

Adenomas with HGD

Adenomas ≥ 10 mm

≥ 3 adenomas

Advice:

Surveillance after 3 years 10 years

European surveillance guideline 2013

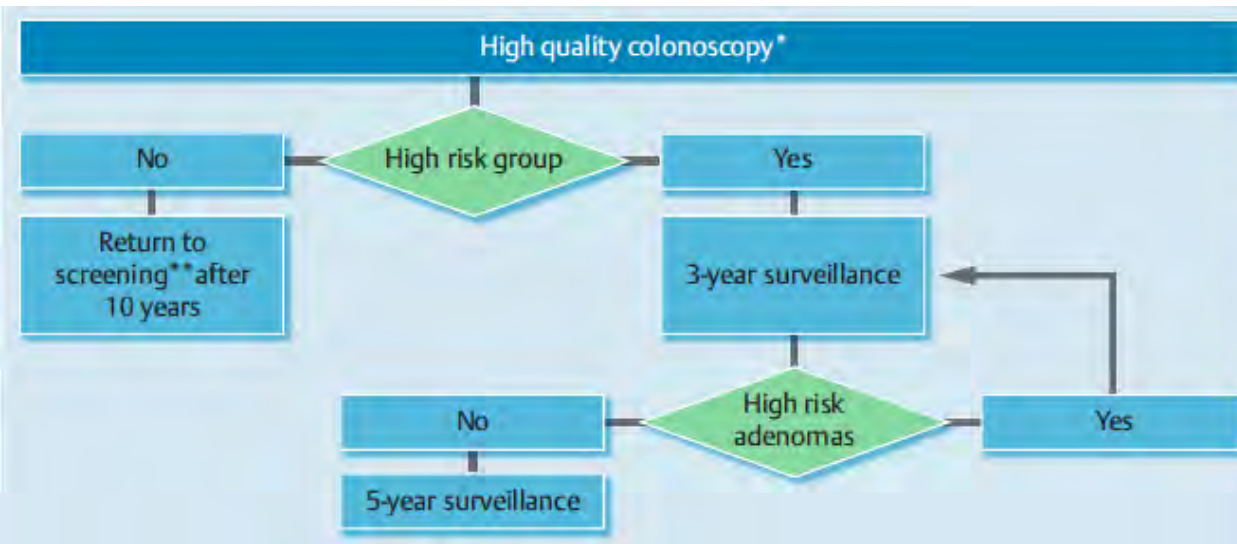


Fig. 1 Dichotomization of patients following a high quality colonoscopy in which high risk lesions have or have not been detected. High risk group: patients with an adenoma ≥ 10 mm; or with high grade dysplasia; or a villous component or ≥ 3 adenomas; serrated polyp ≥ 10 mm or with dysplasia. * Excluding those in whom cancer has already developed. ** To a screening programme if available, otherwise to repetition of colonoscopy.

Serrated polyps

Schreiner et al. Gastroenterology 2010
Imperiale et al. NEJM 2008
Laiyemo et al. Clinical Gastroenterol and Hepatol 2009
Huang et al. Surg Endo 2001

Lu et al. Am J Surg Path 2010
Salaria et al. Human Pathology 2012

Serrated polyps

No prospective studies

Interval CRCs

Often BRAF mutated, CIMP-high, proximal
Suggests that current detection, Tx and/or
surveillance of serrated polyps is insufficient

Proximal/large serrated polyps are strongly associated
with synchronous high-risk neoplasia

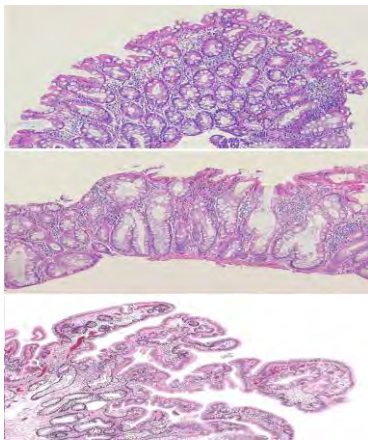
Plea for surveillance colonoscopy after removal of
serrated polyps

*Arain, Am J Gastro 2010; Samowitz, Gastro 2005; Sawhney, Gastro 2006;
Li, Am J Gastro 2009; Hiraoka Gastro 2010; Schreiner Gastro 2010*

Serrated polyps

Problem..

- Large inter- and intra-observer variability under pathologists for different serrated polyps
- Surveillance for serrated polyps as one histological entity



Hyperplastic polyp

Sessile serrated adenoma/polyp

Traditional serrated adenoma



Serrated polyps

European surveillance guideline 2013

High-risk group:

Adenomas with villous histology

Adenomas with HGD

Adenomas ≥ 10 mm

≥ 3 adenomas

Serrated polyps ≥ 10 mm or with dysplasia

Advice:

Surveillance after 3 years 10 years

Post-CRC

After resection increased risk for metachronous CRC: 3-7%*

COMPLETE & high-quality colonoscopy before surgery!
If incomplete/suboptimal: CT-colonography, or perfrom a.s.a.p. after surgery (3 months)

If complete: surveillance 1 year after resection, then 3 years and then upon findings

* Bouvier, *Eur J Cancer* 2008; Mulder, *Dis Colon Rectum* 2012

Future ..



Far future is bright.. EPoS!!

European randomized controlled trials in surveillance

EPoS trial I will compare 5 to 10-year surveillance for patients with low-risk adenomas

EPoS II will compare 3 to 5-year surveillance for patients with high-risk adenomas

EPoS III observational study on surveillance of serrated polyps

