Croatia and the EU:
Together
Against Cancer

IMPROVEMENT OF QUALITY OF THE NATIONAL CANCER SCREENING PROGRAMMES IMPLEMENTATION (CRO SCREENING)

MINISTRY OF HEALTH OF THE REPUBLIC OF LITHUANIA

NCI

LITHUANIAN UNIVERSITY OF HEALTH SCIENCES

CPVA

NIJZ
Nacionalni institut za javno zdravje

Ministry of Health

HZJZ

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Croatia and the EU: Together Against Cancer

Polyps classification and postpolypectomy surveillance intervals

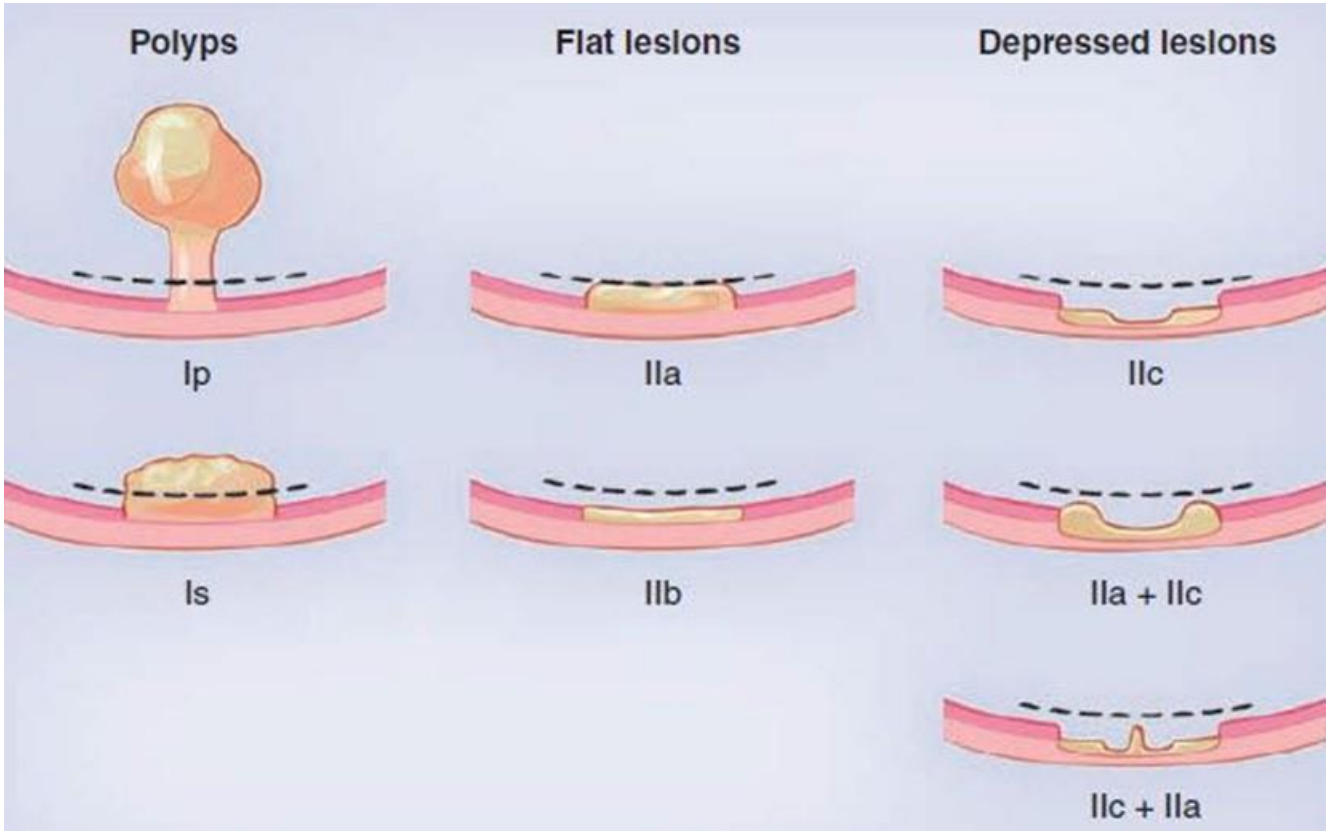
Mirjana Kalauz

Clinical Hospital Center Zagreb

Polyp classification

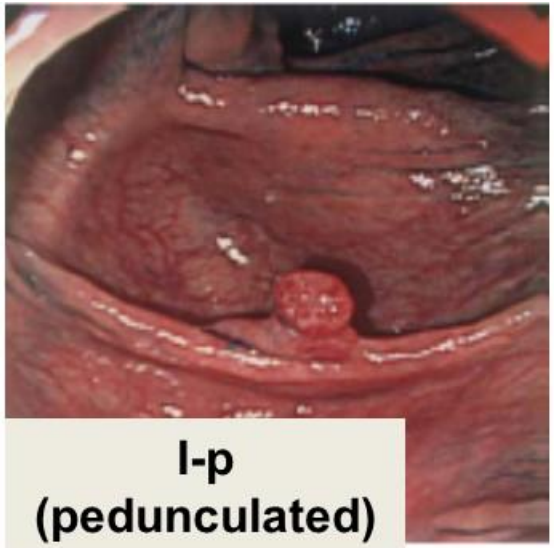
- Paris classification
- Kudo classification
- NICE

Paris classification
Shape of polyp

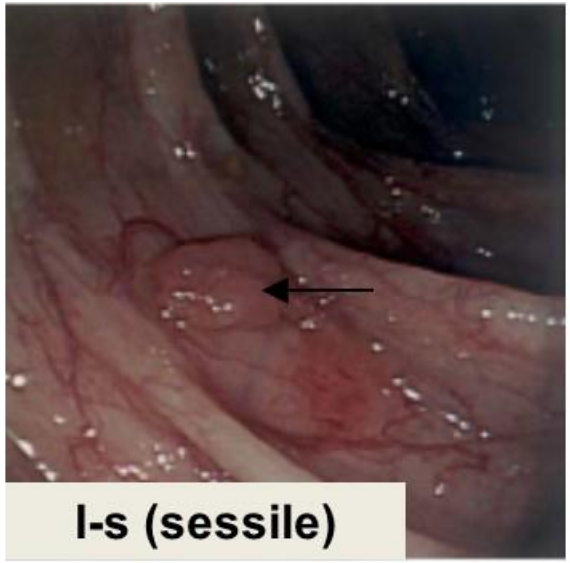


The Paris endoscopic classification of superficial neoplastic lesions: esophagus, stomach, and colon: November 30 to December 1, 2002. ***Gastrointest. Endosc.*** **58(6 Suppl.), S3–S43 (2003).**

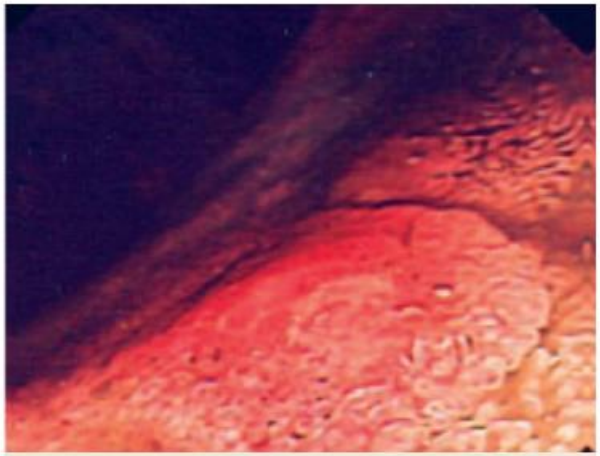
Paris Classification



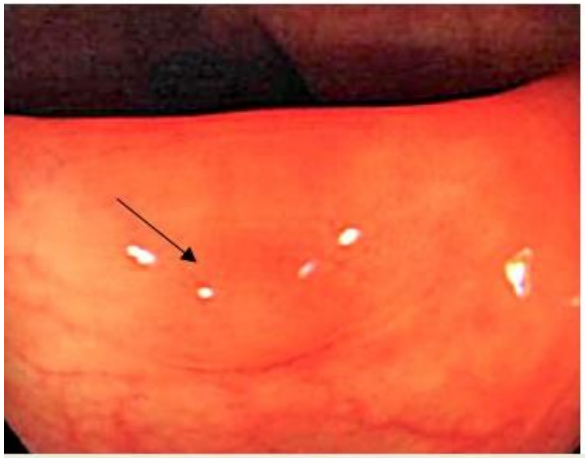
I-p (pedunculated)



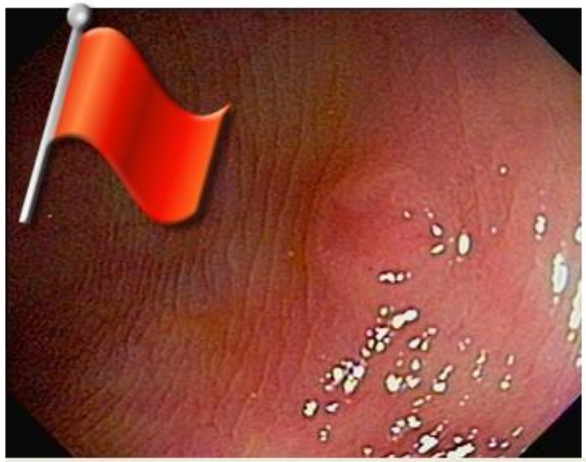
I-s (sessile)



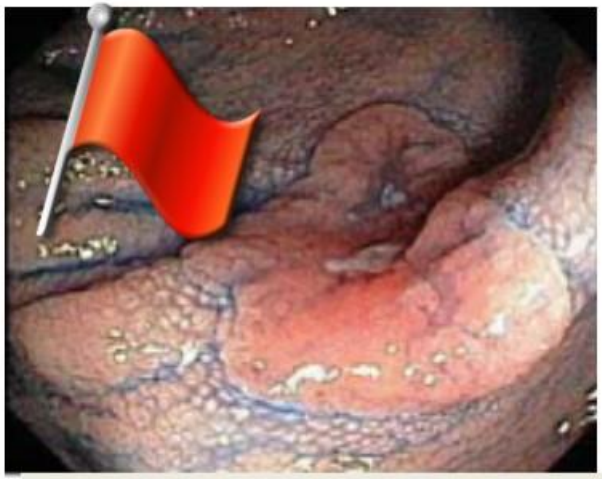
II-a (flat elevated)



II-b (flat flat)



IIc (flat depressed)



III (flat ulcerated)

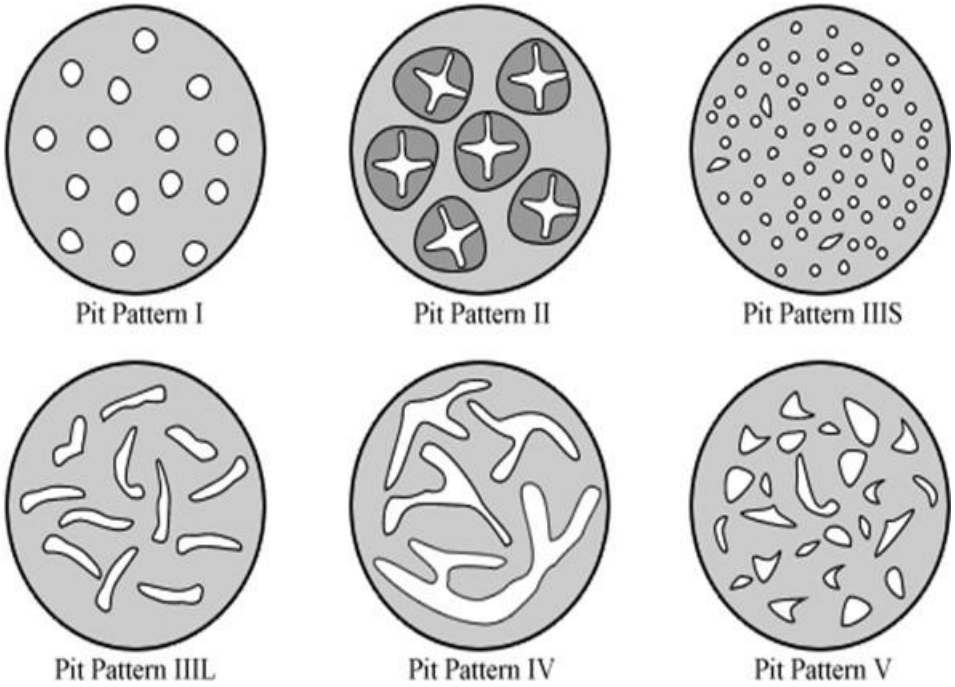
Kudo pit patterns

- Developed for use in chromoendoscopy
  - Indigo carmine remains in depressions (pits)
  - The violet dyes actually stain the mucosa
- Pits = openings of the colonic crypts
- Pit pattern = arrangement of openings on mucosal surface

Kudo pit pattern classification

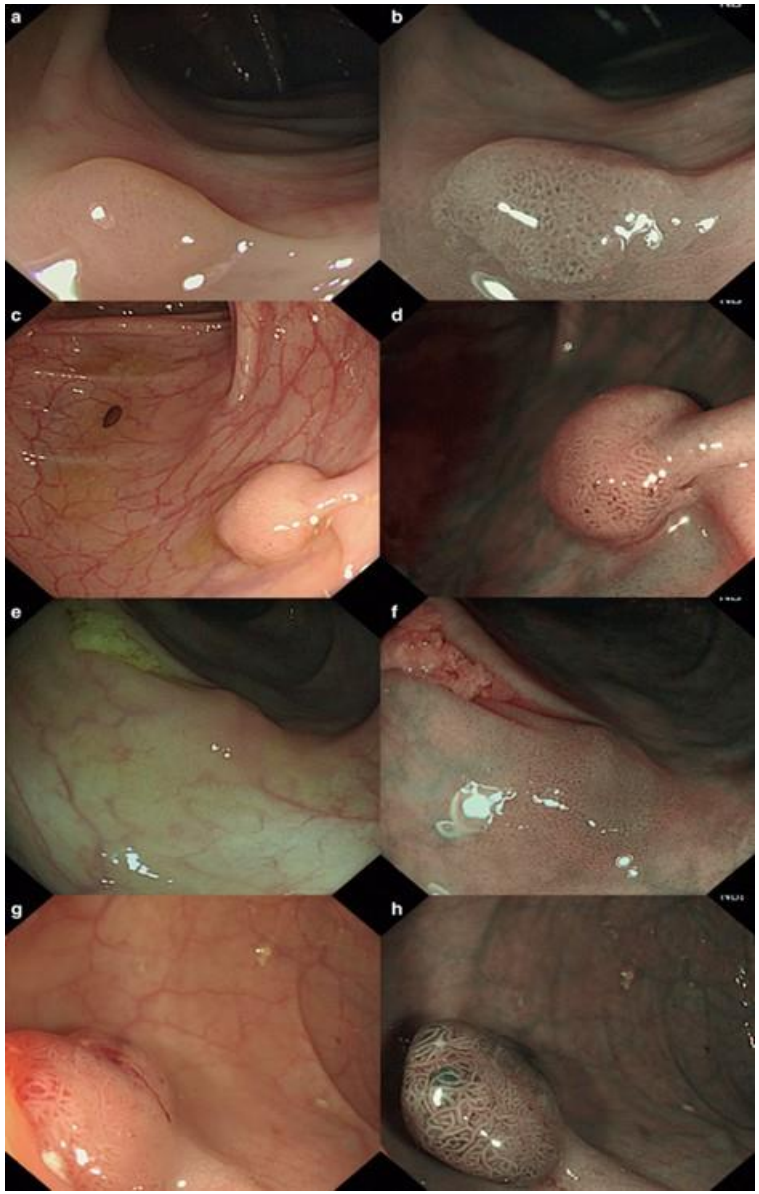
- characteristics of the different pit pattern types

Pit pattern type	Characteristics
I	roundish pits
II	stellar or papillary pits
III S	small roundish or tubular pits (smaller than type I pits)
III L	large roundish or tubular pits (larger than type I pits)
IV	branch-like or gyrus-like pits
V	non-structured pits



Kudo S. Et al. GIE 1996

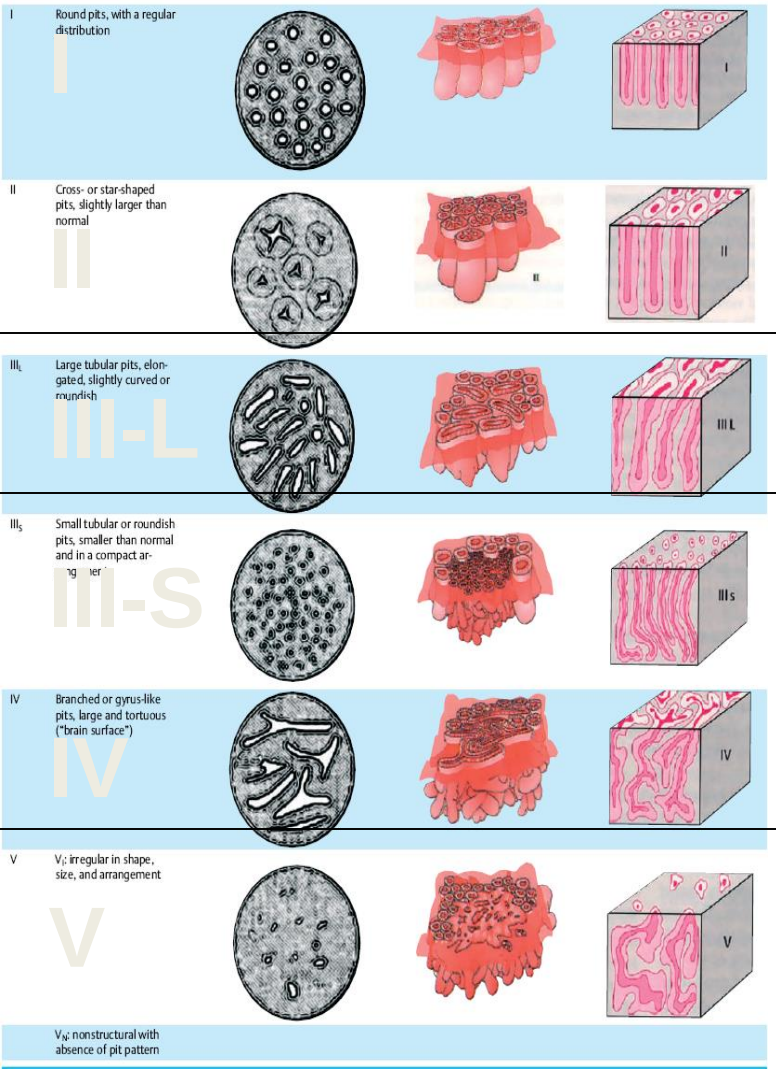
But in real life classification is not really that easy



Kudo pit patterns

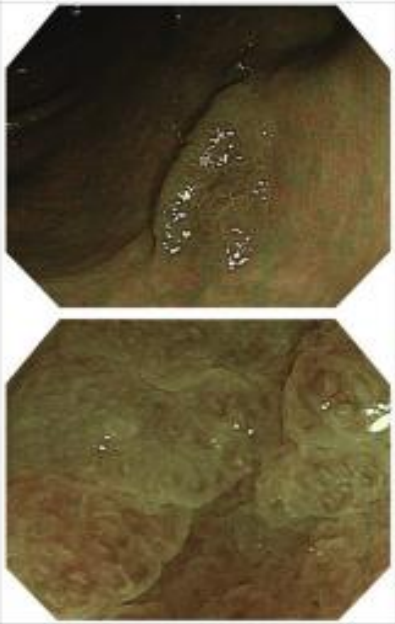
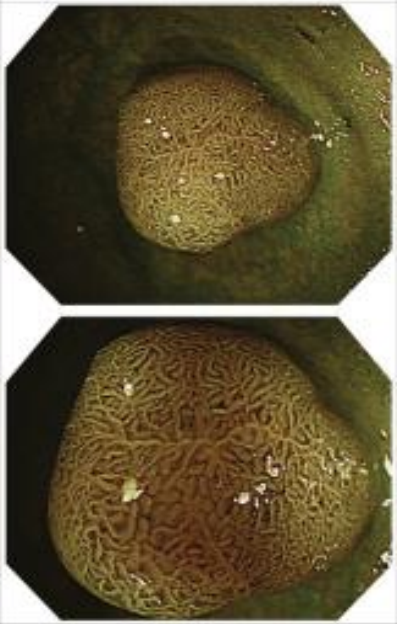
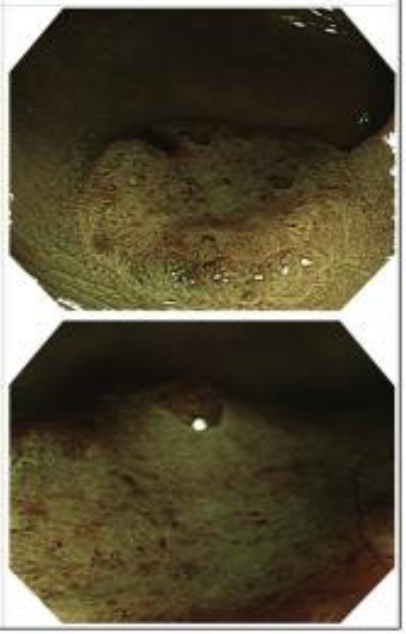
- Technique
  - Feces & mucous must be washed away before staining
  - 2 – 7ml applied to lesion, excess suctioned before observation
    - Spray catheter or syringe injection for indigo carmine
  - Violet dyes require 30 – 60 seconds to stain prior to observation

The Kudo Classification
Pit Patterns



Histology	Management
Hyperplastic	Nothing
Adenoma	Snare polypectomy
High grade adenoma	EMR en bloc or pEMR
Carcinoma	EMR en bloc, ESD, or surgery

NBI International Colorectal Endoscopic (NICE) Classification*

	Type 1	Type 2	Type 3
Color	Same or lighter than background	Browner relative to background (verify color arises from vessels)	Brown to dark brown relative to background; sometimes patchy whiter areas
Vessels	None, or isolated lacy vessels coursing across the lesion	Brown vessels surrounding white structures**	Has area(s) of disrupted or missing vessels
Surface Pattern	Dark or white spots of uniform size, or homogeneous absence of pattern	Oval, tubular or branched white structure surrounded by brown vessels**	Amorphous or absent surface pattern
Most likely pathology	**Hyperplastic**	**Adenoma*** **	**Deep submucosal invasive cancer**
Examples			

* Can be applied using colonoscopes with or without optical (zoom) magnification

** These structures (regular or irregular) may represent the pits and the epithelium of the crypt opening.

*** Type 2 consists of Vienna classification types 3, 4 and superficial 5 (all adenomas with either low or high grade dysplasia, or with superficial submucosal carcinoma). The presence of high grade dysplasia or superficial submucosal carcinoma may be suggested by an irregular vessel or surface pattern, and is often associated with atypical morphology (e.g., depressed area).

Advanced endoscopic imaging: European Society of Gastrointestinal Endoscopy (ESGE) Technology Review

Authors: James E. East[1], Jasper L. Vleugels[2], Philip Roelandt[3], Pradeep Bhandari[4], Raf Bisschops[3], Evelien Dekker[2], Cesare Hassan[5], Gareth Horgan[6], Ralf Kiesslich[7], Gaius Longcroft-Wheaton[4], Ana Wilson[8], Jean-Marc Dumonceau[9]

Institutions: Institutions are listed at end of article.

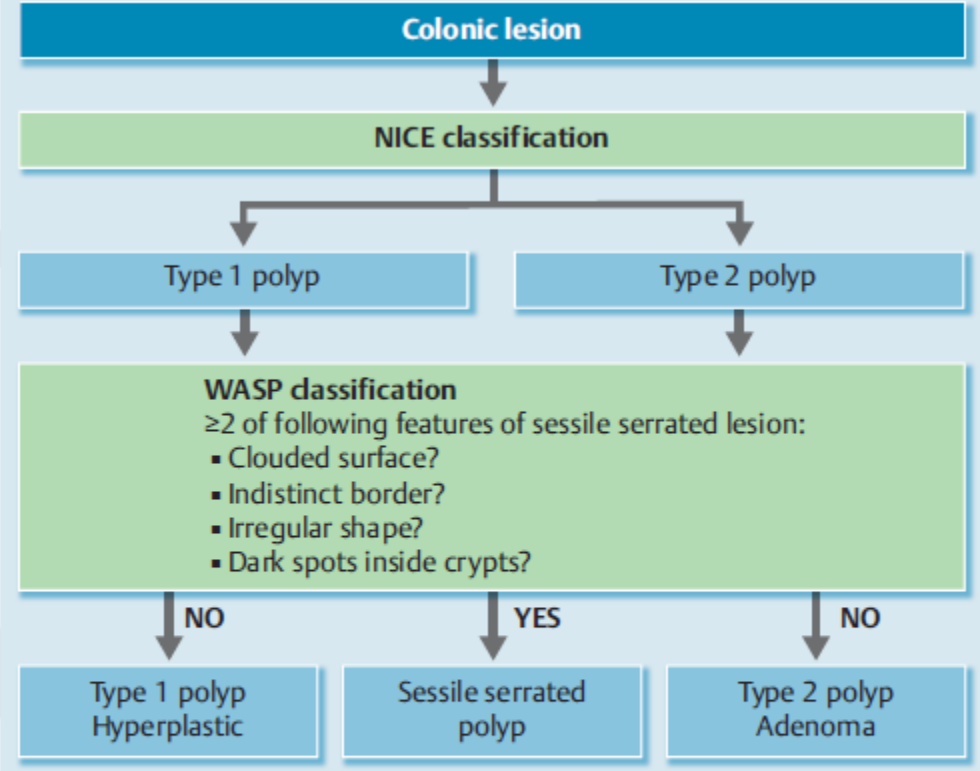


Fig. 4 Workgroup serrAted polypS and Polyposis (WASP) classification for optical diagnosis of hyperplastic polyps, sessile serrated lesions and adenomas, based on the Narrow band imaging International Colorectal Endoscopic (NICE) classification and four sessile serrated lesion-like features.

Post-polypectomy surveillance in colorectal screening programme

Mirjana Kalauz

Clinical Hospital Center Zagreb

Outline

- Background & definitions
- EU/ESGE guidelines
- Case presentations
- Conclusions

Reminder

- Surveillance is the ongoing follow-up of patient at increased risk of the disease

EU/ESGE guiding principals

- Prior adenoma is a risk factor for advanvced neoplasia
- Risk is related to baseline colonoscopy findings: polyp size, number, histological grade

EU/ESGE guiding principals

- Surveillance focus should be highest risk individuals and minimum frequency to provide protection against future cancer

- an indiscriminate use of post-polypectomy surveillance would represent a substantial burden on endoscopy resources

The case for surveillance

- Efficacy of endoscopic surveillance only shown in epidemiological studies
- No RCT
- Patients not in surveillance have 3-4x risk for CRC

BUT:

- Approx 20% endoscopy capacity is colonoscopic surveillance
- Significant volume of unecessary inaccurate surveillance

Radaelli F. DigLiverDis 2012
ESGE Guideline 2013

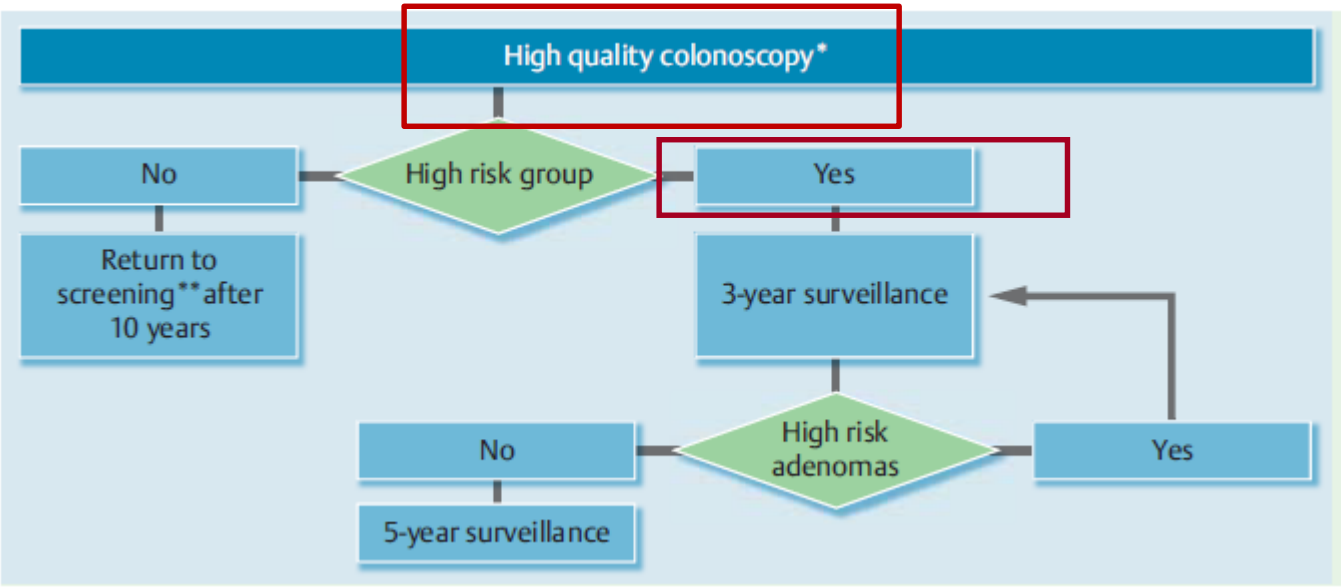
Citat iz guideline str 843 4. pasos

Surveillance Interval

- Studies have shown large proportion of surveillance procedures are inappropriate (40-69%)
- Endoscopist should be responsible
- Histology required so will need mechanism to finalise report
- Adherence to published surveillance should be monitored as a part of QA

Schoen Gastroenterology 2010

Key recommendations



Cesare Hassane et al. Post-polypectomy colonoscopy surveillance: European Society in Gastrointestinal Endoscopy Guideline 2013

ESGE

High quality colonoscopy

- Complete
- Meticulous inspection
- Adequately cleaned
- All neoplastic lesions removed and retrieved
- Endoscopist responsibility for providing written recommendation for surveillance

High Risk

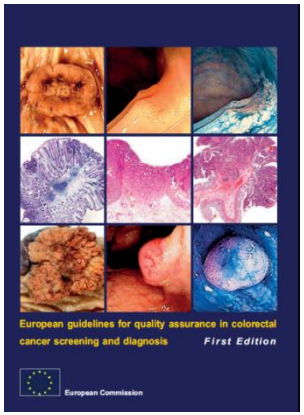
- Repeat at 3 years if:
  - Adenoma with villous histology
  - or high grade dysplasia
  - or ≥10 mm
  - or ≥ 3 adenomas

- Serrated polyps ≥10 mm
  - dysplasia

Low risk

- Repeat at 10 years or return to screening if:
  - 1-2 tubular adenoma
  - or <10 mm
  - or LGD
- Serrated polyps <10 mm, no dysplasia

COLONOSCOPIC SURVEILLANCE FOLLOWING ADENOMA REMOVAL (EU 2010)



Baseline colonoscopy (CS)[1]

Low risk	Intermediate risk	High risk
1-2 adenomas **AND** both small (<10 mm)	3-4 small adenomas **OR** at least 1 ≥10 mm/<20mm	≥ 5 small adenomas **OR** At least one ≥20 mm
AND tubular AND low grade neoplasia[2]	*OR villous OR high grade neoplasia[2]*	
A	**B**	**C**
Routine Screening[3]	**3 years**	**Within 1 year[4]**

Findings at surveillance CS (B)

- One negative exam → **5 yearly**
- Two consecutive negative exams → **Routine Screening[3]**
- Low or intermediate risk adenomas → **B**
- High risk adenomas → **C**

Findings at surveillance CS (C)

- Negative, low or intermediate risk adenomas → **3 yearly**
- Two consecutive negative exams → **5 yearly**
- High risk adenomas → **C**

Notes:

[1] Baseline colonoscopy must be complete in order to accurately assess risk.

[2] Optional additional criteria

[3] Other consideration: age, family history, accuracy and completeness of examination

[4] Clearing colonoscopy to check for missed lesions

Smjernice HGD-a

Other key recommendation

- Piecemeal resection >10 mmFU within 6/12 mo
- Inadequate prep-early repeat
- Symptomatic patients prompt repeat

- Stop at ~ 80 years
- FH CRC- no influence
- No evidence for interval FOBT

Zauber Ann Intern Med 2008
Keighley APT 2003
Yag Clinical Endos 2012

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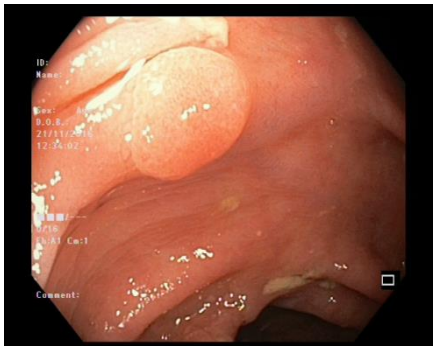
Case one



- Female 55
- Rectal bleeding
- Single 8 mm polyp at sygmoid flexure
- Polypectomy performed with cold resection

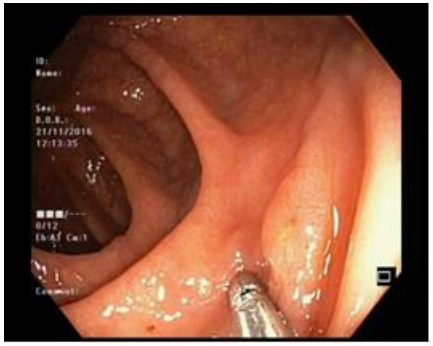
- Histology: 12 mm tubular adenoma, LGD

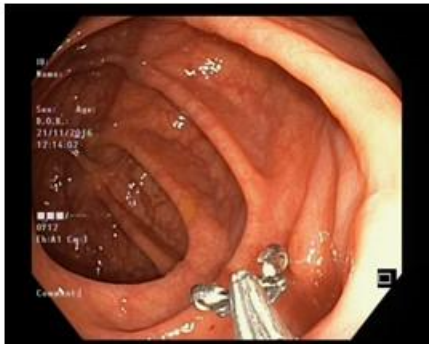
What would be surveillance interval?

- 1 year
- 3 years
- 5 years
- 10 years

Learning points: case one

- Teach precise polyp size measurement to the mm level
- Photograph all lesiones prior to resection
- For lesions in the diminutive size range, consider photography with a closed biopsy forceps
- For lesions 6-15 mm photograph with open snare





Plumb et al. Endoscopy 2016

Case two

- 65 male
- Screening colonoscopy
- Otherwise fit and well
- Single polyp 30 mm
- Piecemeal resection performed
- Histology: villotubular adenoma, LGD

What would be surveillance interval?

- 1 year
- 3 years
- 5 years
- 10 years

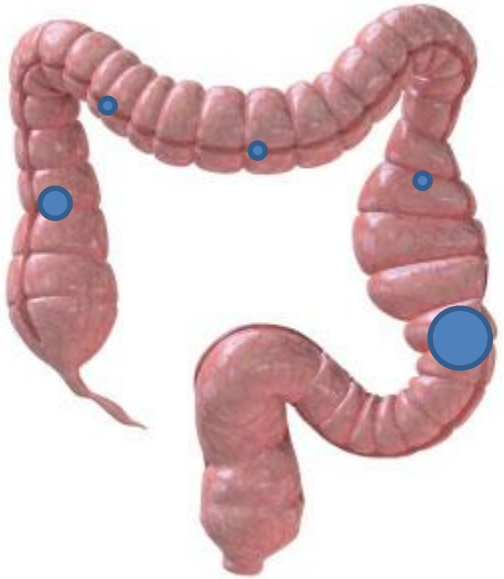
Learning points: case two

- Piecemeal EMR >10 mm
- FU within 6/12 mo before surveillance starts
- Incomplete excision consistently shown to in increase PCCRC

Pohl (CARE study) Gastroenterology 2013

Case three

- 5 polyps (largest in sygmoid colon 25 mm)
- Removed by electroresection
- Histology: tubular and villotubular adenoma (LGD)



What should be screening interval?

- 1 year
- 3 years
- 5 years
- 10 years

= EU guideline

= ESGE guideline

Case four

- 64 male
- Rectal bleeding
- Colonoscopy: 8 mm polyp in rectum. Polypectomy performed with cold biopsy forceps

Case four

- Histology:
- A single fragment measuring 4 mm, tubular adenoma with LGD

- What next?

Learning points: case four

- Careful inspection & accurate description of polyps
- Snare resection of almost all polyps
- Cold forceps only used for biopsy or removal 1-2 mm polyps
- Prompt follow-up
- If malignancy of small lesion suspected,avoid multiple biopsies (may be amenable to ESD)

ADR: Validation (and vindication)

- Polish screening colonoscopy study

  - 45,000 subjects, 186 endoscopists

  - Patients whose endoscopists' ADR was < 20% had at least 10-fold higher risk to be diagnosed with interval CRC, compared to those whose endoscopists had ADR ≥ 20%

  - Interval CRC risk increased as ADR decreased

  Kaminski et al. NEJM 2010; 362: 1795-1803.