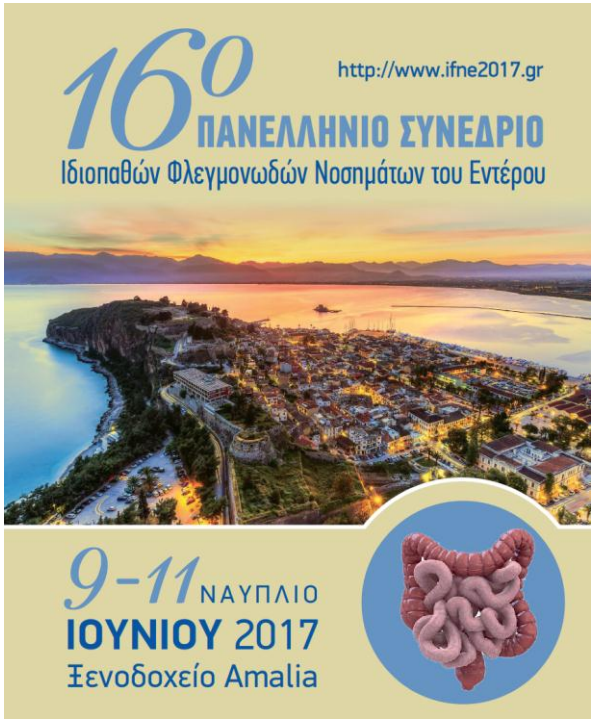
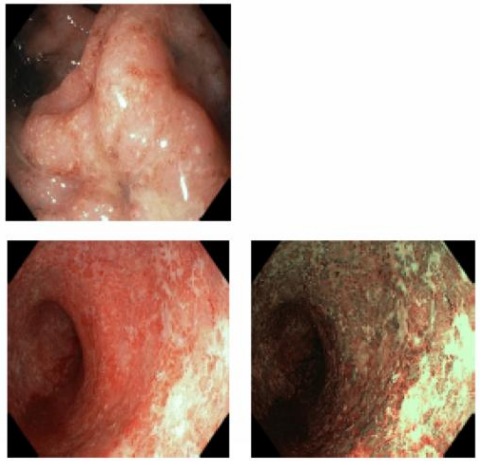
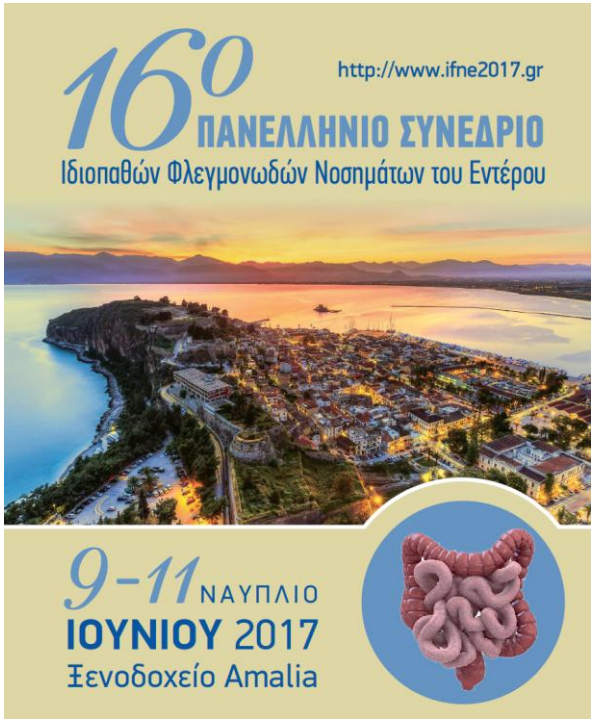


Ανίχνευση δυσπλασίας Ενδοσκοπική επιτήρηση ασθενών με ΙΦΝΕ

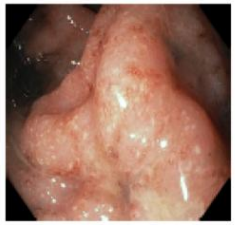


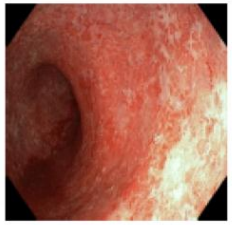
Ιωάννης Σ. Παπανικολάου

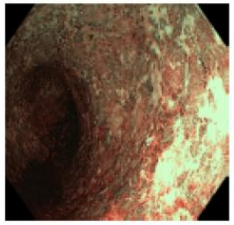
Επίκουρος Καθηγητής Παθολογίας-Γαστρεντερολογίας,
Ηπατογαστρεντερολογική Μονάδα,
Β΄ Προπαιδευτική Παθολογική Κλινική ,
Ιατρικής Σχολής Πανεπιστημίου Αθηνών,
Πανεπιστημιακό Γενικό Νοσοκομείο «Αττικόν».



- **Δεν έχω κάποια σύγκρουση συμφερόντων που να σχετίζεται με την παρούσα εισήγηση.**







ΕΝΔΟΣΚΟΠΗΣΗ ΣΤΙΣ Ι.Φ.Ν.Ε.

Annesse V et al, JCC 2013

ΕΝΔΟΣΚΟΠΗΣΗ ΣΤΙΣ Ι.Φ.Ν.Ε.

Διάγνωση

Learning Objectives

1) Describe when to start screening and surveillance in patients with IBD based on guidelines
2) Describe the newer concepts for describing dysplasia in patients with IBD

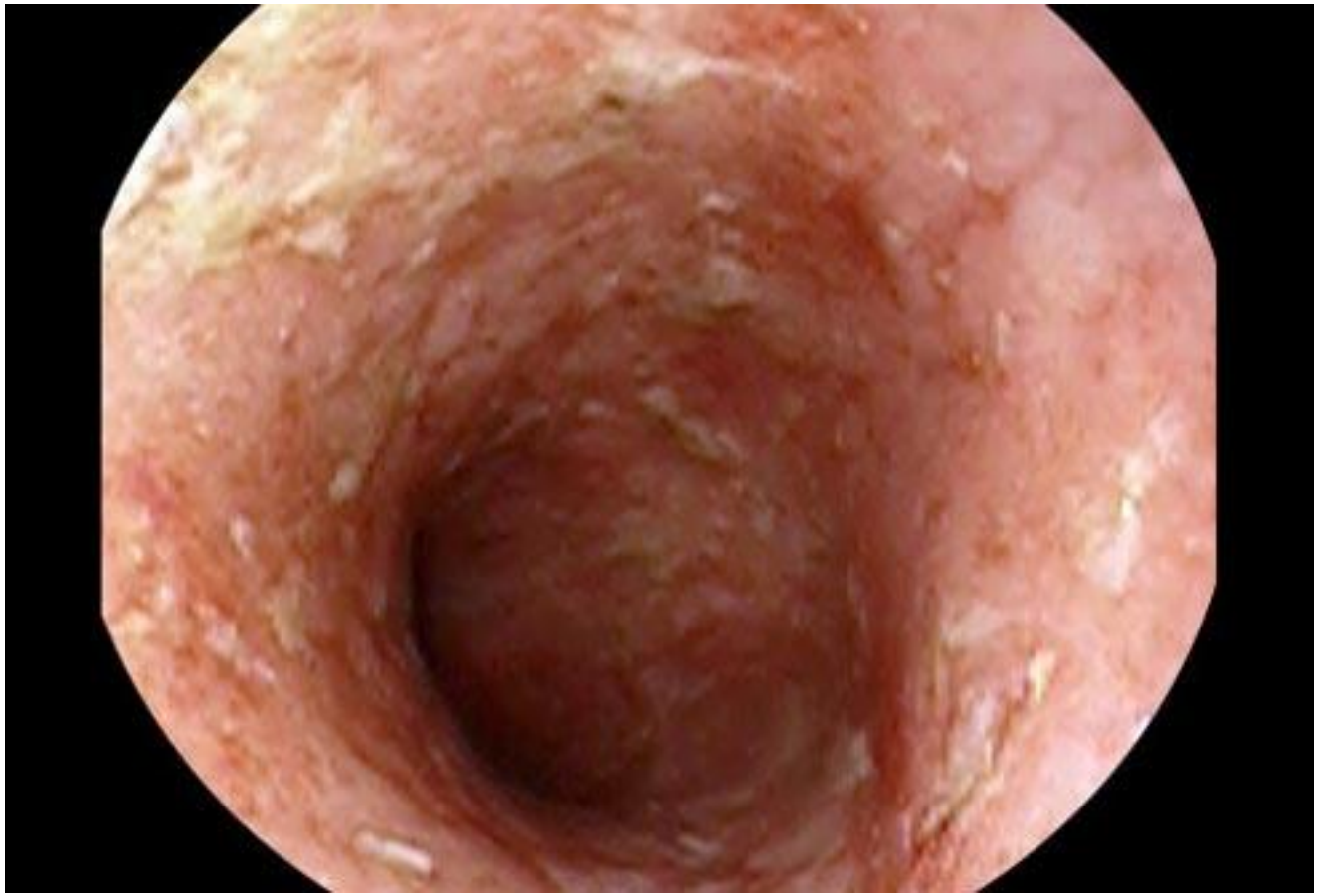
TECHNOLOGICAL ADVANCE

Improved optics that include high definition colonoscopes and screens, data on the benefits of chromoendoscopy, as well as advances in endoscopic resection of challenging polyps had changed the way dysplasia is detected and managed.

Πρόγνωση

Annesse V et al, JCC 2013

Για ποιο λόγο είναι χρήσιμη η ενδοσκοπική επιτήρηση;



Κίνδυνος εμφάνισης δυσπλασίας και ΚΠΕ σε UC

Προοπτικά δεδομένα (Η.Β.)→30 έτη

- 600 UC pts:
- **Επίπτωση νεοπλασίας**
  - **1.5% 10 έτη**
  - **7.7% 20 έτη**
  - **15.8% 30 έτη**
  - **22.7 % 40 έτη**
  - **27.5 % 45 έτη**
- **Επίπτωση ΚΠΕ**
  - **2.5 % 20 έτη**
  - **7.6 % 30 έτη**
  - **10.8% 40 έτη**

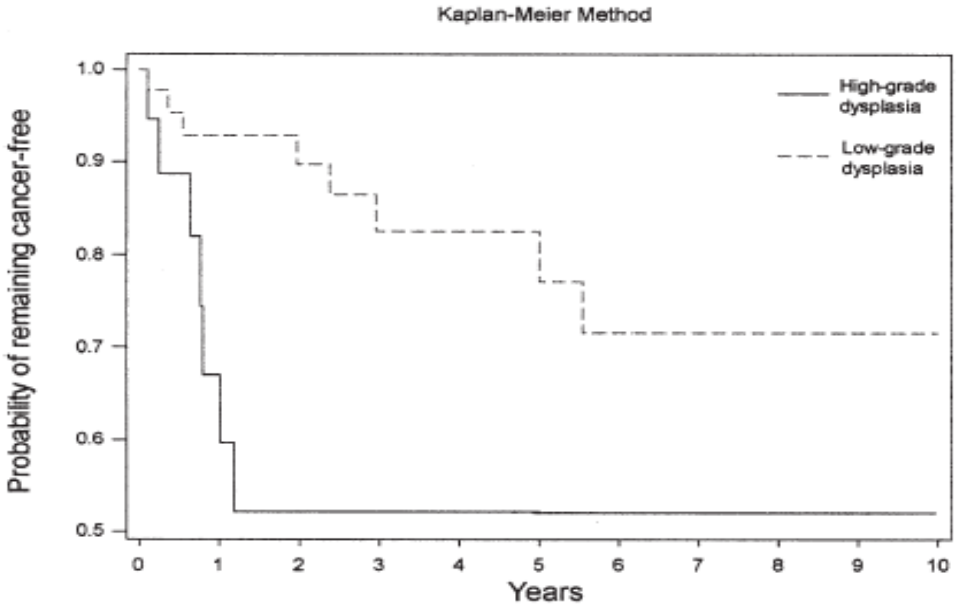


Figure 3. Time to cancer after dysplasia diagnosis using the Kaplan–Meier method.

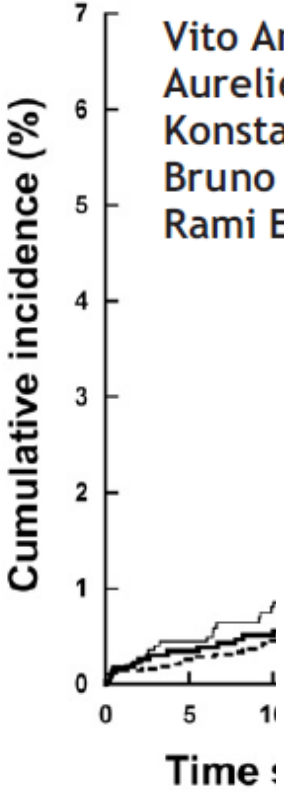
•Rutter et al GASTROENTEROLOGY 2006;130:1030–1038

CONSENSUS/GUIDELINES

European evidence based consensus for endoscopy in inflammatory bowel disease☆

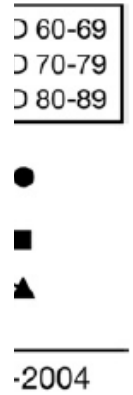
Vito Annese[a,*,1,2], Marco Daperno[b,2], Matthew D. Rutter[c,d,2], Aurelien Amiot[e], Peter Bossuyt[f], James East[g], Marc Ferrante[h], Martin Götz[i], Konstantinos H. Katsanos[j], Ralf Kießlich[k], Ingrid Ordás[l], Alessandro Repici[m], Bruno Rosa[n], Shaji Sebastian[o], Torsten Kucharzik[p], Rami Eliakim[q,**,1,2] on behalf of ECCO

A



ECCO Statement 13C

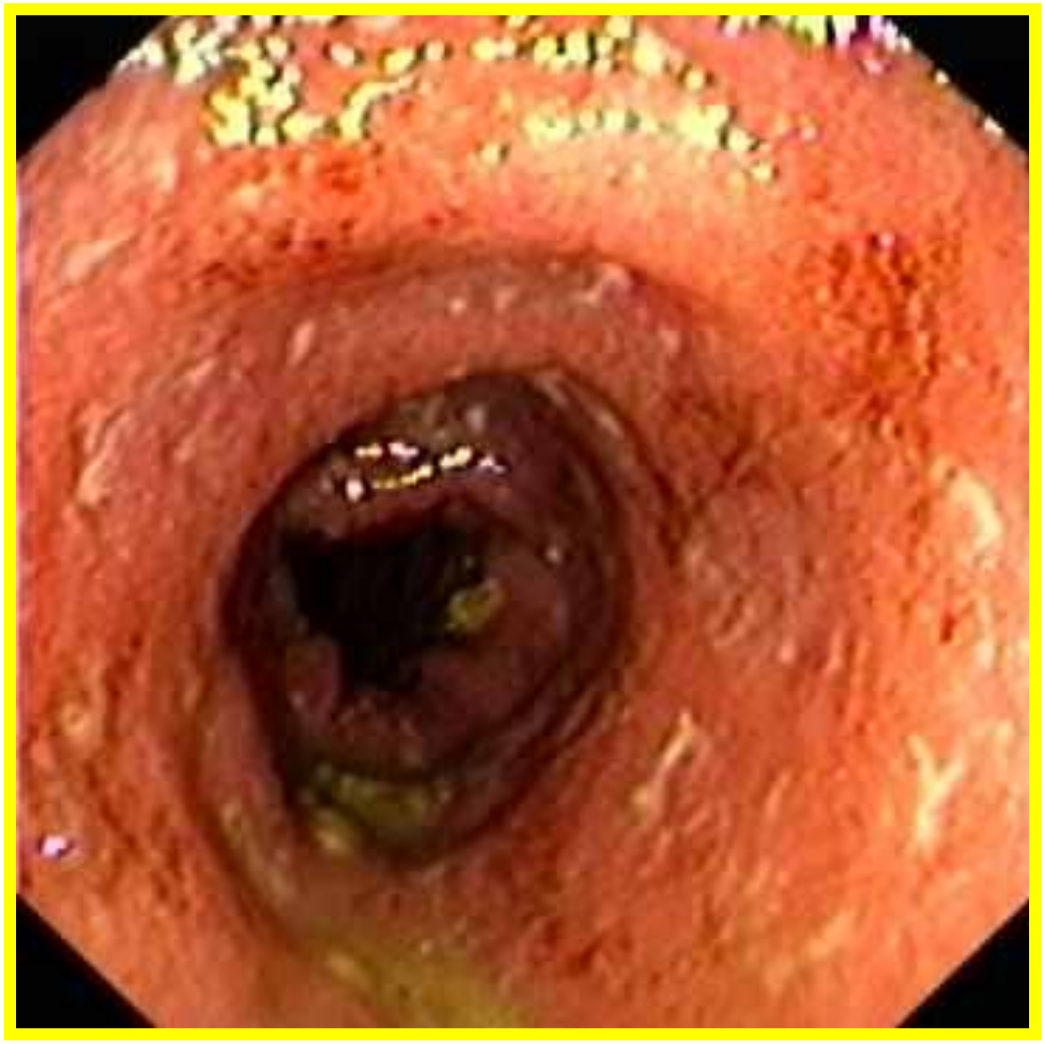
Surveillance colonoscopy permits detection of dysplasia and earlier detection of CRC, which may lead to improved prognosis [EL4] [Voting results: 100% agreement].



N=7607

Soderlund et al GASTROENTEROLOGY 2009;136:1561–1567

Ενδοσκοπική επιτήρηση: Προφίλ ασθενών Σε ποια χρονικά διαστήματα;

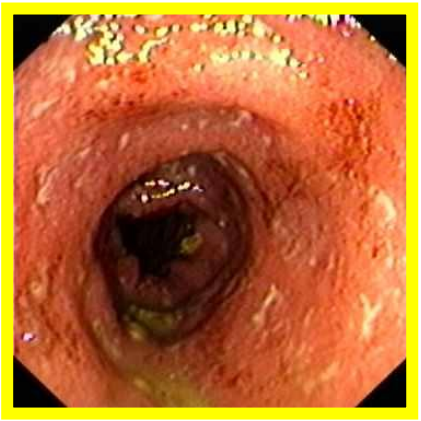


ΕΠΙΤΗΡΗΣΗ ΑΣΘΕΝΩΝ

CONSENSUS/GUIDELINES

European evidence based consensus for endoscopy in inflammatory bowel disease☆

Vito Annese[a,*,1,2], Marco Daperno[b,2], Matthew D. Rutter[c,d,2], Aurelien Amiot[e], Peter Bossuyt[f], James East[g], Marc Ferrante[h], Martin Götz[i], Konstantinos H. Katsanos[j], Ralf Kießlich[k], Ingrid Ordás[l], Alessandro Repici[m], Bruno Rosa[n], Shaji Sebastian[o], Torsten Kucharzik[p], Rami Eliakim[q,**,1,2] on behalf of ECCO



- ✓ **Screening** κολονοσκόπηση μετά από **8** (10) χρόνια από την έναρξη των συμπτωμάτων
- ✓ **Επανέλεγχος** καθορίζεται ανάλογα με τον **κίνδυνο** που εμφανίζει ο ασθενής

ΙΦΝΕ & κίνδυνος καρκινογένεσης

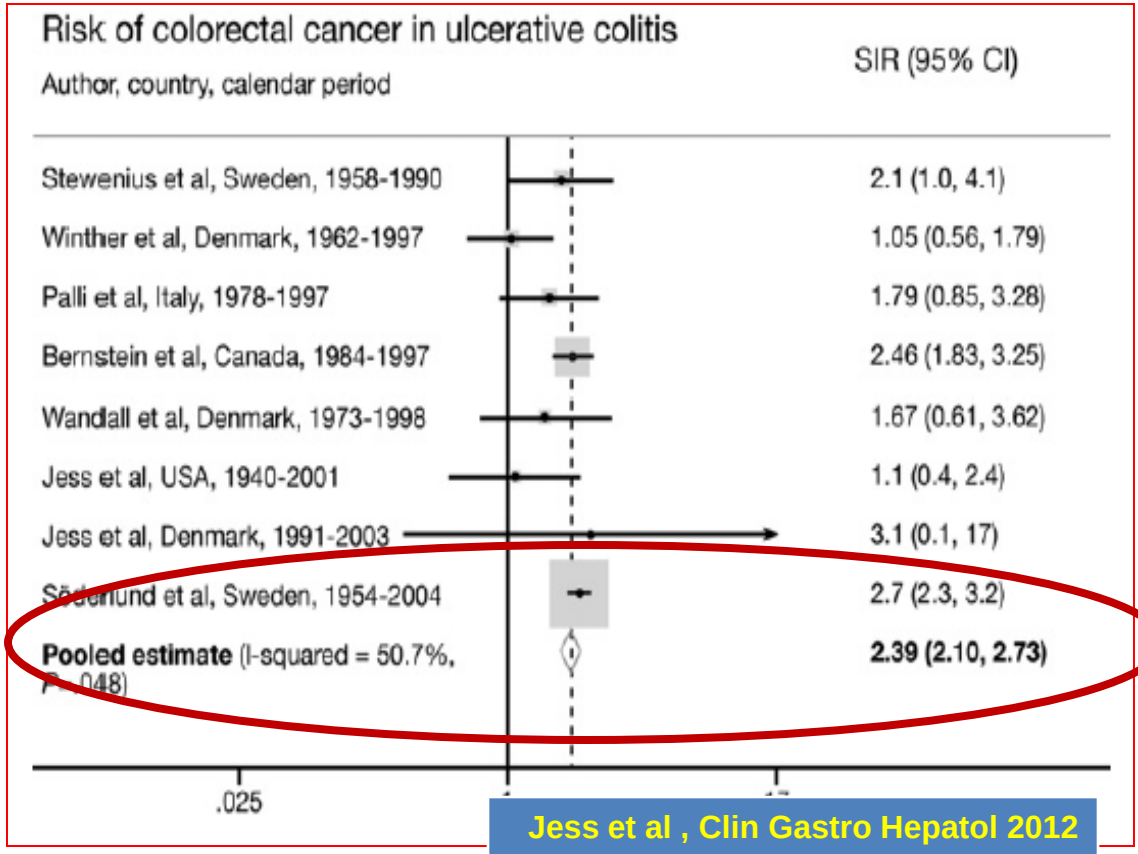
Risk of Colorectal Cancer in Patients With Ulcerative Colitis: A Meta-analysis of Population-Based Cohort Studies

TINE JESS,* CHRISTINE RUNGOE,* and LAURENT PEYF

Επιπολασμός ΚΠΕ 1,6% σε περίοδο 14 ετών (Χ2,4 σε σχέση με γενικό πληθυσμό)

- **Crohn κολίτιδα → UK ίδιος κίνδυνος**
- **Σε προσβολή του ειλεού όχι κίνδυνος**

Choi et al, Gastro 1993
Eaden J et al, Gut 2001
Ekbom et al , NEJM 1990



Jess et al , Clin Gastro Hepatol 2012

ECCO Guideline/Consensus Paper

European Evidence-based Consensus: Inflammatory Bowel Disease and Malignancies

Vito Annese,[a] Laurent Beaugerie,[b] Laurence Egan,[c] Livia Biancone,[d] Claus Bolling,[e] Christian Brandts,[f] Daan Dierickx,[g] Reinhard Dummer,[h] Gionata Fiorino,[i] Jean Marc Gornet,[j] Peter Higgins,[k] Konstantinos H Katsanos,[l] Loes Nissen,[m] Gianluca Pellino,[n] Gerhard Rogler,[o] Franco Scaldaferri,[p] Edyta Szymanska,[q] Rami Eliakim; on behalf of ECCO

ECCO Statement 2B

The risk of CRC is hi
detected on colonic lic
[EL 3]. Endoscopic surv
individual patient's risk
Proctocolectomy abolish
cancer or cancer of the r
who have undergone ilea

ECCO Statement 13B

Colorectal cancer risk is highest in patients with extensive colitis, intermediate in patients with left-sided colitis, and lowest in proctitis [EL2]. Patients with severe inflammation, patients with colitis-associated primary sclerosing cholangitis (PSC), and patients with a family history of CRC may have a particularly increased risk [EL2] [Voting results: 100% agreement].

Anesse V et al, JCC 2013

Παράγοντες που σχετίζονται με αυξημένο κίνδυνο ανάπτυξης ΚΠΕ

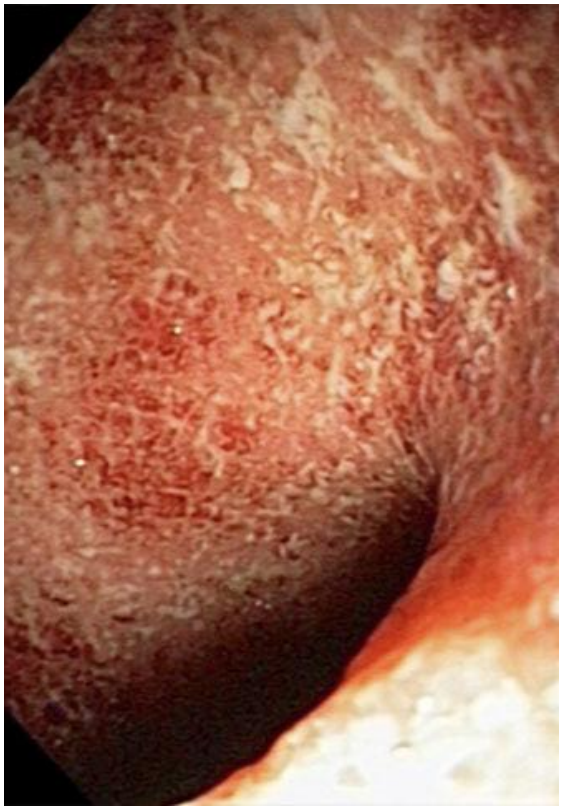
- Διάρκεια νόσου
- Έκταση νόσου
- Βαθμός φλεγμονής (ήπια, μέτρια, σοβαρή)
- Παρουσία PSC
- Οικογ. ιστορικό ΚΠΕ

ECCO Statement 13B

Colorectal cancer risk is highest in patients with extensive colitis, intermediate in patients with left-sided colitis, and lowest in proctitis [EL2].
Patients with severe inflammation, patients with colitis-associated primary sclerosing cholangitis (PSC), and patients with a family history of CRC may have a particularly increased risk [EL2] [Voting results: 100% agreement].

Anesse V et al, JCC 2013

ΚΙΝΔΥΝΟΣ ΕΜΦΑΝΙΣΗΣ ΔΥΣΠΛΑΣΙΑΣ - ΚΑΡΚΙΝΟΥ



Μεγαλύτερος κίνδυνος σε:

- ✓ **Μακροχρόνια νόσο**
- ✓ **Πανκολίτιδα**
- ✓ **Συνύπαρξη PSC**
- ✓ **Οικογενειακό ιστορικό ΚΠΕ**

Μέτριος κίνδυνος σε (AP) κολίτιδα

Χαμηλός κίνδυνος σε ορθίτιδα

Ενδοσκοπική επιτήρηση στους ασθενείς με ΙΦΝΕ

Βαθμός κινδύνου	Ενδοσκοπική επιτήρηση
Υψηλού κινδύνου	1 έτος
Ενδιάμεσου κινδύνου	2-3 έτη
Χαμηλού κινδύνου	5 έτη

Rubin C et al, Gastro1992
Thomas APT 2007
Anesse V et al, JCC 2013

ECCO Statement 13E

Ongoing surveillance should be performed in all patients apart from those with proctitis or Crohn's colitis involving only one segment of colorectum [EL4] [Voting results: 100% agreement].
As there is no clear evidence for surveillance intervals, individualising intervals based on risk stratification is recommended [EL5] [Voting results: 100% agreement].

a) Patients with high risk features (stricture or dysplasia detected within the past 5 years, PSC, extensive colitis with severe active inflammation, or a family history of CRC in a first degree relative at less than 50 years) should have next surveillance colonoscopy scheduled for 1 year [EL4] [Voting results: 93% agreement];
b) Patients with intermediate risk factors should have their next surveillance colonoscopy scheduled for 2 to 3 years. Intermediate risk factors include extensive colitis with mild or moderate active inflammation, post-inflammatory polyps or a family history of CRC in a first degree relative at 50 years and above [EL5] [Voting results: 100% agreement];
c) Patients with neither intermediate nor high risk features should have their next surveillance colonoscopy scheduled for 5 years [EL4] [Voting results: 93% agreement].

ΑΣΘΕΝΕΙΣ ΥΨΗΛΟΥ ΚΙΝΔΥΝΟΥ

Επανέλεγχος σε 1 έτος

Εκτεταμένη κολίτιδα με ενεργότητα ιστολογικά	Οικογενειακό ιστορικό ΚΠΕ σε συγγενή < 50 ετών	Δυσπλασία Στένωση PSC

ΑΣΘΕΝΕΙΣ ΜΕΤΡΙΟΥ ΚΙΝΔΥΝΟΥ

Επανέλεγχος σε 2-3 έτη

Εκτεταμένη κολίτιδα χωρίς ενεργότητα ιστολογικά	Οικογενειακό ιστορικό ΚΠΕ σε συγγενή > 50 ετών

ΑΣΘΕΝΕΙΣ ΧΑΜΗΛΟΥ ΚΙΝΔΥΝΟΥ

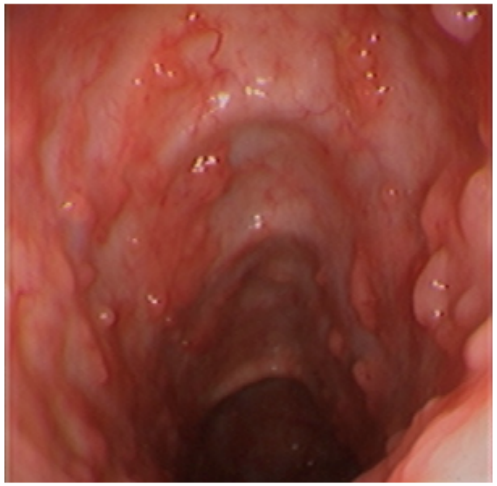
Επανέλεγχος σε 5 έτη

Ασθενείς με (ΑΡ) ελκώδη κολίτιδα ή Crohn κολίτιδα που προσβάλλει μόνο μέρος του παχέος εντέρου

ΕΝΔΟΣΚΟΠΙΚΕΣ ΤΕΧΝΙΚΕΣ ΓΙΑ ΕΠΙΤΗΡΗΣΗ - ΑΝΙΧΝΕΥΣΗ ΔΥΣΠΛΑΣΙΑΣ

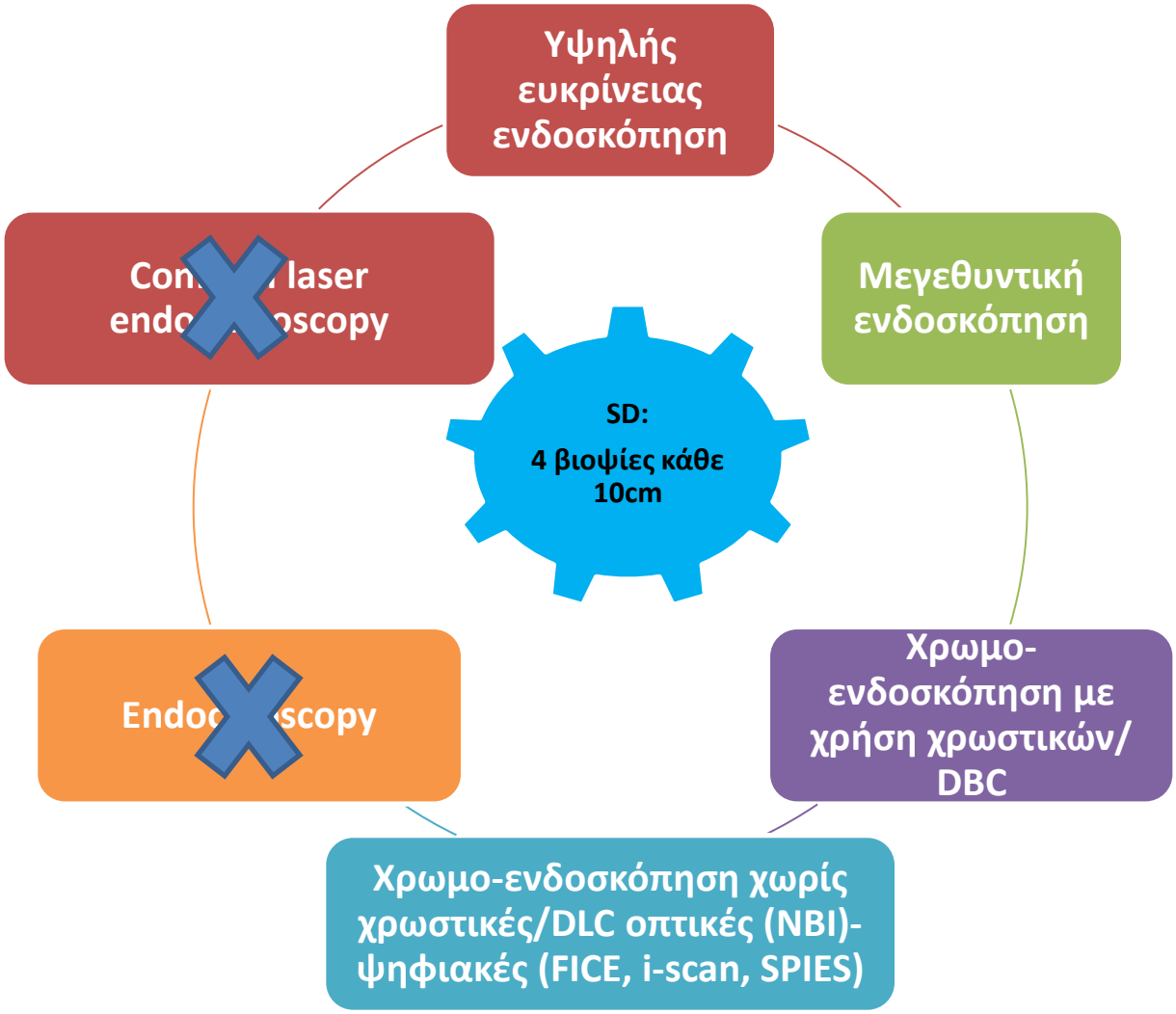
Παράγοντες που επηρεάζουν την επιτυχή ενδοσκοπική επιτήρηση στις ΙΦΝΕ

- ✓ Δυνατότητα αναγνώρισης της δυσπλασίας
- ✓ Δυνατότητα ολοκληρωμένης ενδοσκοπικής εκτομής
- ✓ Ικανοποιητικός αριθμός ιστολ. δειγμάτων
- ✓ Παράγοντες χρονιότητας (στενώσεις, ψευδοπολύποδες)
- ✓ Αποδοχή/συμμόρφωση ασθενών



Farrave F et al, Gastro 2010

ΕΝΔΟΣΚΟΠΙΚΕΣ ΤΕΧΝΙΚΕΣ ΓΙΑ ΕΠΙΤΗΡΗΣΗ - ΑΝΙΧΝΕΥΣΗ ΔΥΣΠΛΑΣΙΑΣ



Τυχαιοποιημένες βιοψίες -περιορισμοί

- Surface area of colorectum: 1578.1 ± 301.0 cm^2
- Surface area of biopsy forceps: 2.2-5 mm^2
- Recommended "at least 33 biopsies"
- Percent surface area with this approach:

0.05%-0.1%

Sadahiro S. et al. *Cancer*.1991.
Rubin CE, et al. *Gastroenterol*. 1992.
Kornbluth and Sachar. *Am J Gastroenterol*. 2010.

Χρωμο-ενδοσκόπηση με χρωστικές ουσίες (DBC)

Τεχνικές:

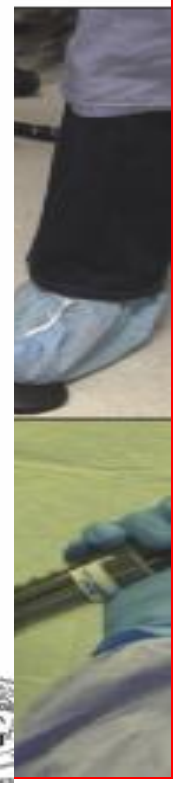
Χρήση χρωστικών ουσιών

- Chromoendoscopy (CE) technique
  - Using foot pump: once the cecum is intubated, exchange the water irrigation with the contrast solution. Circumferentially apply the dye solution while withdrawing. Direct spray to the anti-gravity side.
  - Using a spray catheter: once the cecum is intubated, insert the dye spray catheter into the biopsy channel; the catheter tip should protrude 2-3 cm from the endoscope. Apply dye solution segmentally by using rotation of the colonoscope during withdrawal. Suction any excess solution after ~ one minute to maximize visualization.
  - Examine 20-30cm segments sequentially with reinsertion of the endoscope to the proximal extent of each segment before slow withdrawal and mucosal visualization.
  - Target suspicious lesions using more concentrated solution of dye. Spray ~ 30 mL directly from a 60-mL syringe through the biopsy channel.

    Indigo carmine (0.13%): mix one 5-mL vial IC 0.8% with 25 mL water.

    Methylene blue (0.2%): mix one 10-mL vial MB with 40 mL water.

Sanduleanu S et al GI Endoscopy 2016

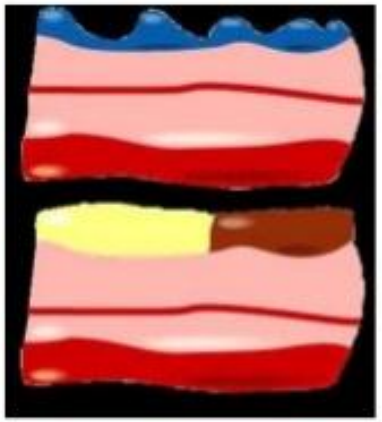


Χρωμο-ενδοσκόπηση με χρωστικές

Chromoendoscopy

-
-

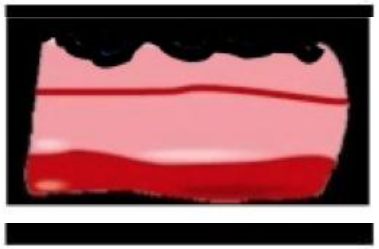
Absorption method



Methylene blue
Toluidine blue

Lugol

Contrast method

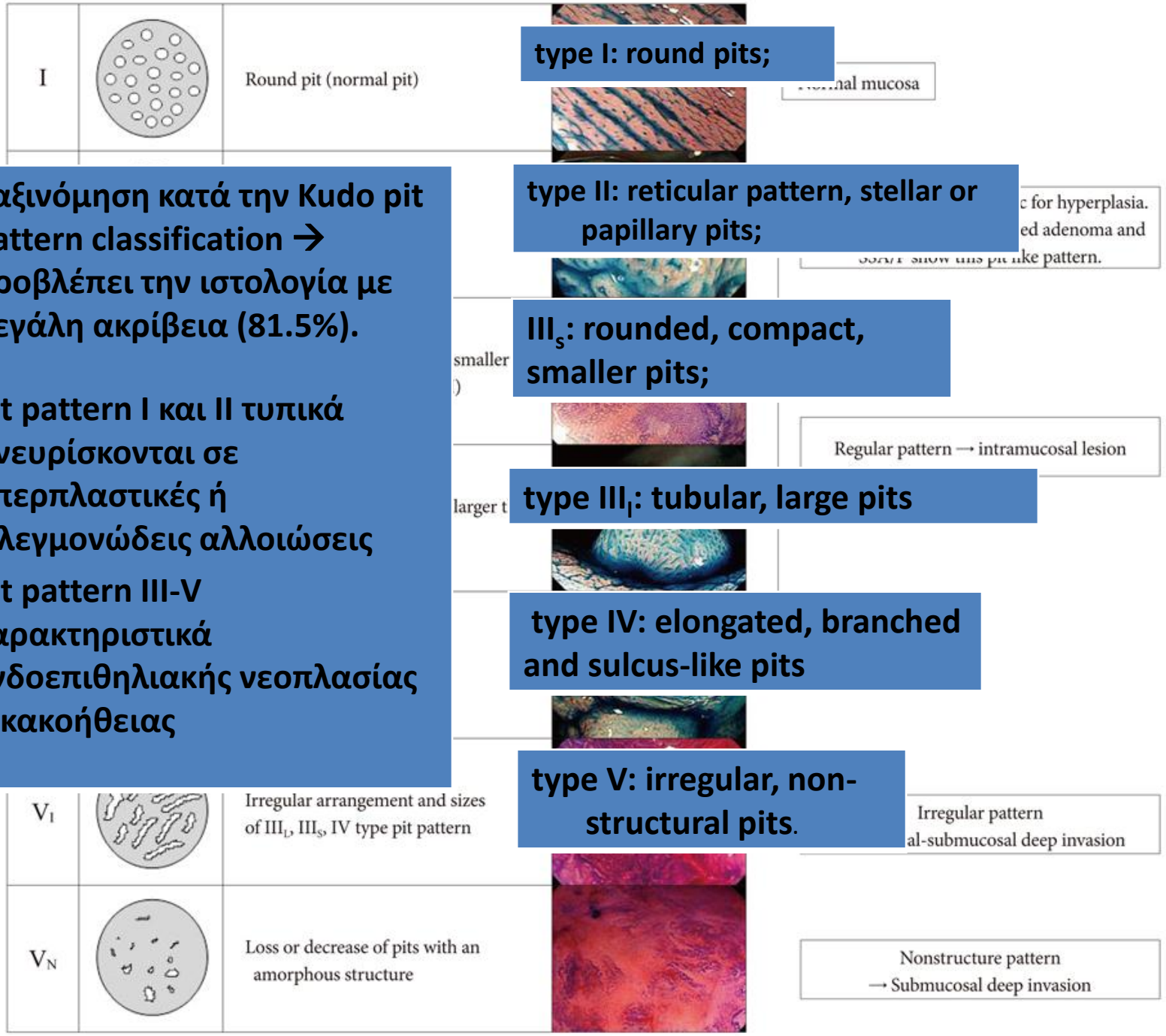


Indigo carmine
Acetic acid

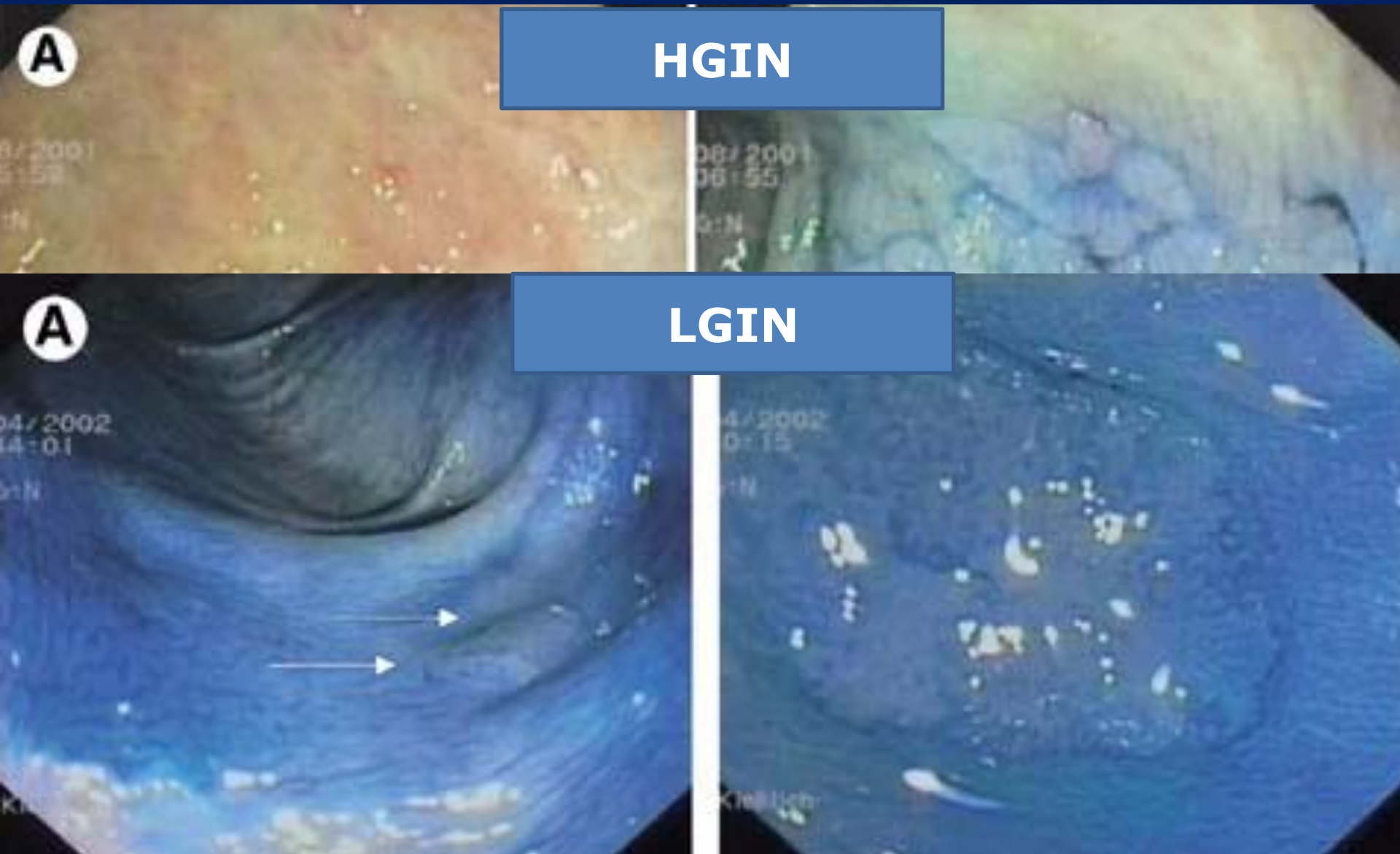
Reaction method

Congo Red
Acetic acid

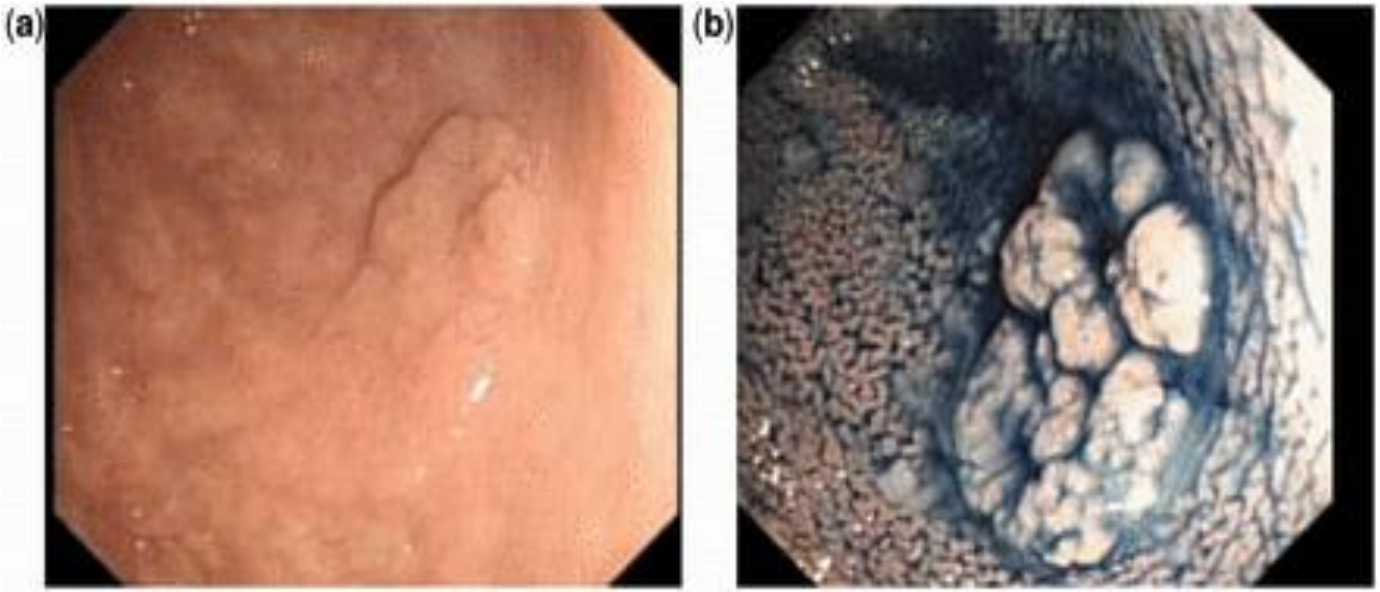
- **Ταξινόμηση κατά την Kudo pit pattern classification → προβλέπει την ιστολογία με μεγάλη ακρίβεια (81.5%).**
- **Pit pattern I και II τυπικά ανευρίσκονται σε υπερπλαστικές ή φλεγμονώδεις αλλοιώσεις**
- **pit pattern III-V χαρακτηριστικά ενδοεπιθηλιακής νεοπλασίας ή κακοήθειας**



ΧΡΩΜΟΕΝΔΟΣΚΟΠΗΣΗ ΣΕ ΙΦΝΕ-ΚΟΛΙΤΙΔΑ (UC)



Indigo carmine (0.1%-0.8%)



Rutter MD. Gut 2004;53:256-260

Pancolonic indigo carmine dye spraying for the detection of dysplasia in ulcerative colitis

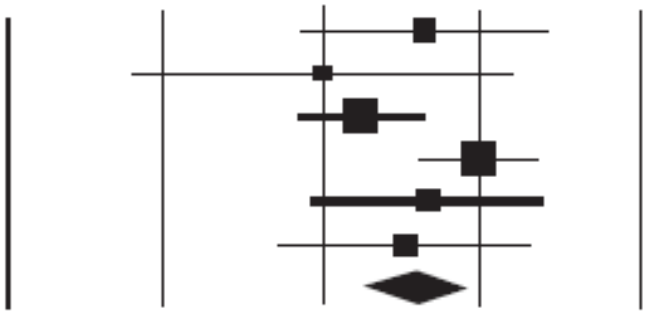
- **Conclusions**
- ***No dysplasia*** was detected in **2904 non-targeted biopsies**.
- In comparison, a ***targeted*** biopsy protocol with **pancolonic chromoendoscopy** required ***fewer biopsies (157)*** yet detected ***nine dysplastic lesions***, seven of which were only visible after indigo carmine application.
- Careful mucosal examination aided by pancolonic chromoendoscopy and targeted biopsies of suspicious lesions may be a more effective surveillance methodology than taking multiple non-targeted biopsies.

Χρωμο-ενδοσκόπηση & δυσπλασία σε ΙΦΝΕ-κολίτιδα vs. WLE

6 μελέτες, 1277 ασθ.

Διαφορά ανεύρεσης δυσπλασίας 7% σε σχέση με WLE (NNT 14,3)

Study name	Statistics for each study			Increm
	IY	Lower limit	Upper limit	
Kiesslich 2003	0.08	–0.015	0.177	
Matsumoto 2003	0.00	–0.150	0.150	
Rutter 2004	0.03	–0.021	0.081	
Hurlstone 2005	0.12	0.076	0.169	
Kiesslich 2007	0.08	–0.009	0.174	
Marion 2008	0.06	–0.034	0.163	
Pooled	0.07	0.032	0.113	



44% περισσότερες βλάβες
27% περισσότερες επίπεδες βλάβες

WLE: white light endoscopy and CE: chromoendoscopy

Αυξημένη ανεύρεση δυσπλασίας με χρωμοενδοσκόπηση

Subramanian et al Aliment Pharmacol Ther 2011; 33: 304–312

Χρωμο-ενδοσκόπηση-Μειονεκτήματα???

Format: Abstract Send to

Gastrointest Endosc. 2013 Jul;78(1):115-20. doi: 10.1016/j.gie.2013.02.001. Epub 2013 Mar 23.

Learning curve of virtual chromoendoscopy for the prediction of hyperplastic and adenomatous colorectal lesions: a prospective 2-center study.

Neumann H[1], Vieth M, Fry LC, Günther C, Atreya R, Neurath MF, Mönkemüller K.

Author information

Abstract

BACKGROUND: Computed virtual chromoendoscopy (CVC) enables high-definition imaging of mucosal lesions with improved tissue contrast. Previous studies have shown that CVC yields an improved detection rate of colorectal lesions. However, the learning curve for interpretation of CVC images is unknown.

OBJECTIVE: To examine the learning curve of correctly identifying hyperplastic and adenomatous colorectal lesions by using CVC.

DESIGN: Prospective, 2-center study.

PATIENTS: Consecutive patients undergoing screening colonoscopy were included. CVC images were analyzed by using corresponding polypectomies as the reference standard followed by a prospective, double-blind review of i-scan images.

METHODS: A training set containing 20 images with known histology was reviewed to standardize image interpretation, followed by a blind review of 110 unknown images. Overall, 4 endoscopists from 2 different endoscopy centers evaluated the images, which were obtained by 1 endoscopist using high-definition endoscopy with CVC.

RESULTS: Patients were included in a prospective fashion. Seventy-seven of 110 colorectal lesions were adenomas and 33 were hyperplastic lesions. Mean diameter of colonic polyps was 4 mm (range, 2-20 mm). Overall accuracy for the group was 73.9% for lesions 1 to 22, 79.6% for lesions 23 to 44, 84.1% for lesions 45 to 66, 87.5% for lesions 67 to 88, and 94.3% for lesions 89 to 110. Accuracy of i-scan for prediction of polyp histology was not dependent on polyp size (≤5 mm, 6-10 mm, or > 10 mm). The ability to obtain high-quality images was stable over time, and high-quality images were constantly produced.

LIMITATION: Post-hoc assessment

CONCLUSION: Accurate interpretation of CVC images for prediction of hyperplastic and adenomatous colorectal lesions follows a learning curve but can be learned rapidly.

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Χρωμο-ενδοσκόπηση: Επιπλέον περιορισμοί???

- Η χρωστική δεν επαλείφει το βλεννογόνο ομότιμα
- Η διάχυση της χρωστικής μπορεί να δώσει δυσκολίες στην ερμηνεία των εικόνων
- Αδυναμία λεπτομερούς περιγραφής της μορφολογίας του αγγειακού δικτύου
- **Αναφορές για βλάβη του DNA στα κύτταρα του ΠΕ από το methylene blue ???**

Tontini GE et al, WJG 2016
Hardie LJ et al, Gastro 2004

SURFACE guidelines

- **S**trict patient selection
  - Histologically confirmed IBD colitis at least 8 years, in clinical remission.
  - Avoid patients with active disease
- **U**nmask the mucosal surface
  - Bowel prep; remove mucus and fluid
- **R**educe peristaltic waves
  - If necessary use spasmolytic agent on extubation
- **F**ull length staining of the colon (pan-chromocoloscopy)
- **A**ugmented detection with dyes
  - Indigo 0,4% of methylene blue 0,1%
- **C**rypt architecture analysis
  - Pit pattern assessment
- **E**ndoscopic targeted biopsies
  - Targeted biopsies of all mucosal alterations, in particular circumscribed lesions

GIE®

CONSENSUS STATEMENT

The SCENIC international consensus statement also was reviewed and endorsed by the Asian Pacific Association of Gastroenterology, British Society of Gastroenterology, Canadian Association of Gastroenterology, European Society of Gastrointestinal Endoscopy, and Japan Gastroenterological Endoscopy Society.

SCENIC international consensus statement on surveillance and management of dysplasia in inflammatory bowel disease

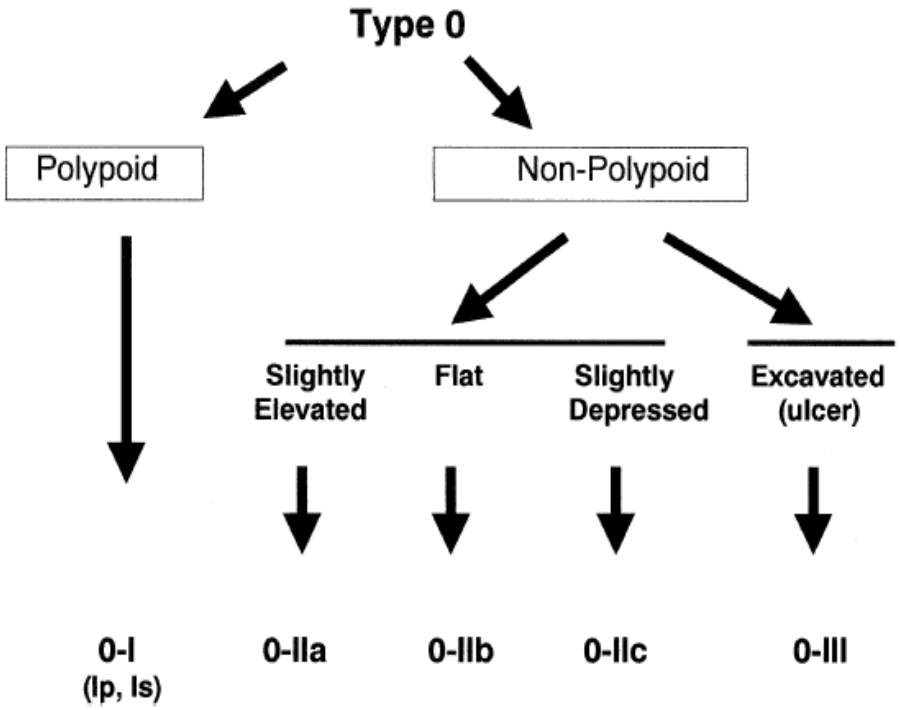
Αναγκαία η κοινή ορολογία για τα ευρήματά μας

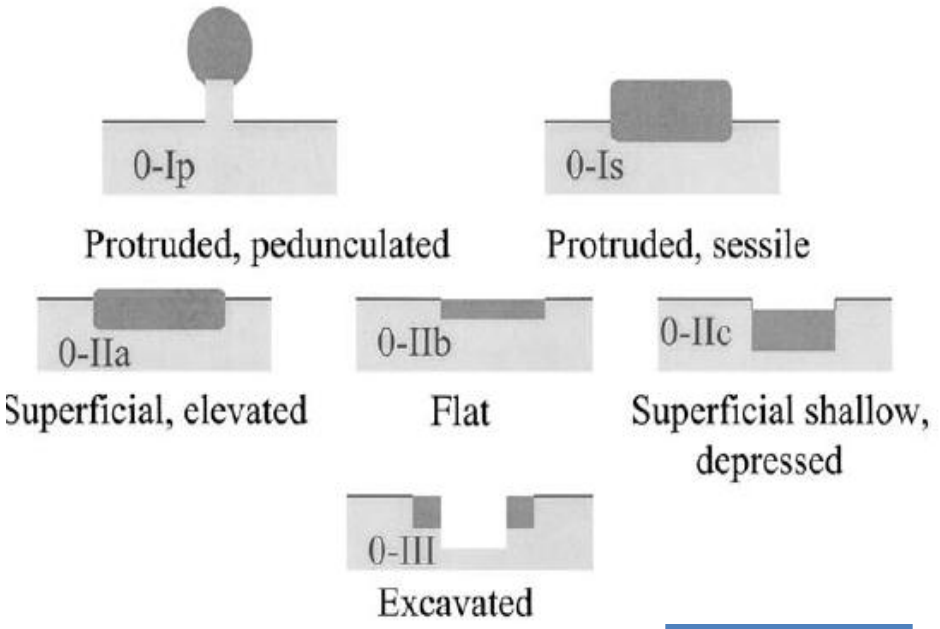
TABLE 1. Terminology for reporting findings on colonoscopic surveillance of patients with inflammatory bowel disease (modified from Paris Classification[15])

Term	Definition
Visible dysplasia	Dysplasia identified on targeted biopsies from a lesion visualized at colonoscopy
Polypoid	Lesion protruding from the mucosa into the lumen ≥2.5 mm
Pedunculated	Lesion attached to the mucosa by a stalk
Sessile	Lesion not attached to the mucosa by a stalk: entire base is contiguous with the mucosa
Nonpolypoid	Lesion with little (<2.5 mm) or no protrusion above the mucosa
Superficial elevated	Lesion with protrusion but <2.5 mm above the lumen (less than the height of the closed cup of a biopsy forceps)
Flat	Lesion without protrusion above the mucosa
Depressed	Lesion with at least a portion depressed below the level of the mucosa
General descriptors	
Ulcerated	Ulceration (fibrinous-appearing base with depth) within the lesion
Border	
Distinct border	Lesion's border is discrete and can be distinguished from surrounding mucosa
Indistinct border	Lesion's border is not discrete and cannot be distinguished from surrounding mucosa
Invisible dysplasia	Dysplasia identified on random (non-targeted) biopsies of colon mucosa without a visible lesion

Ταξινόμηση κατά Paris

- Μορφολογία
- Pit pattern
- Βαθμός φλεγμονής του βλεννογόνου





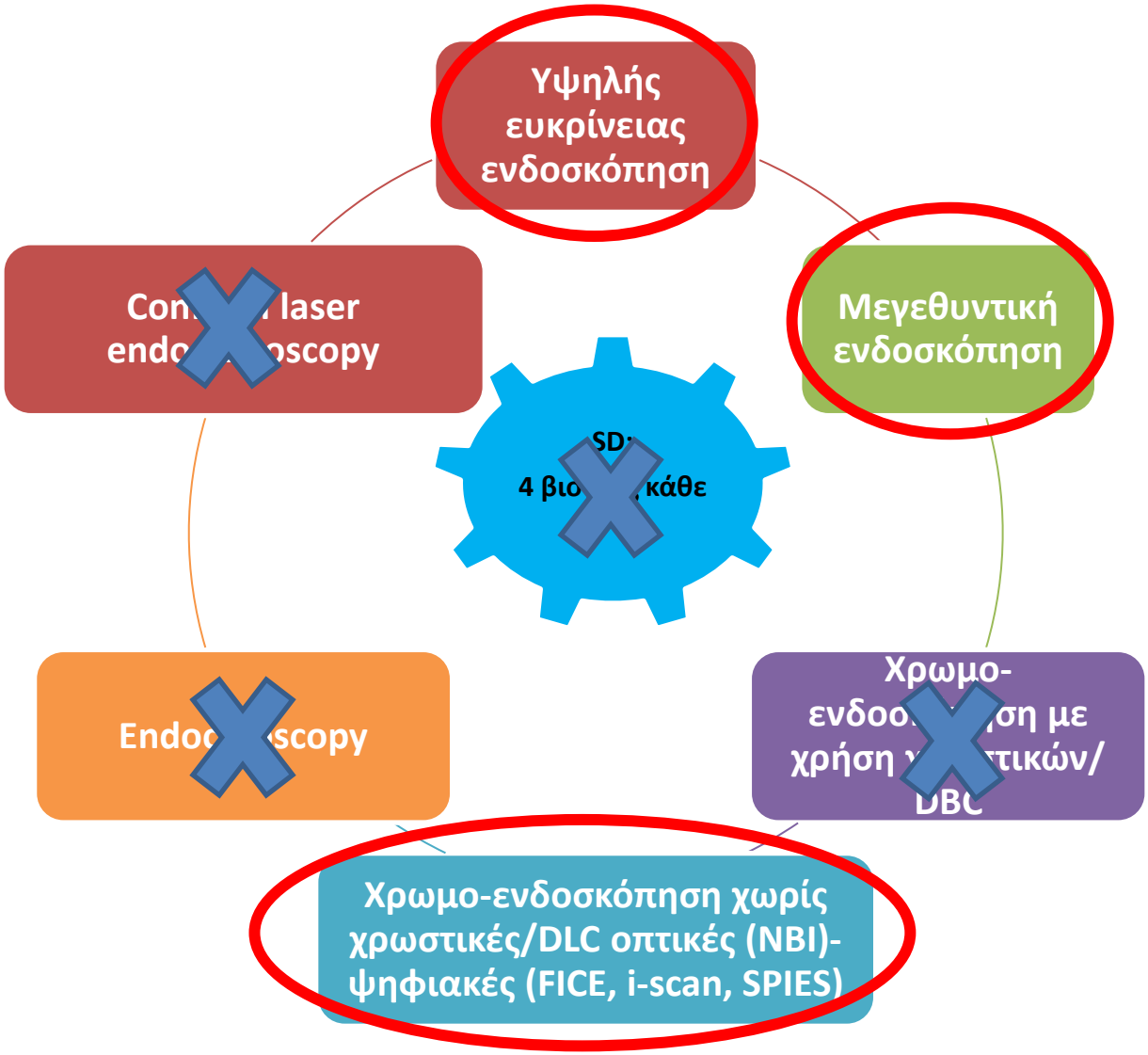
GIE 2003

Bowel preparation & cleansing

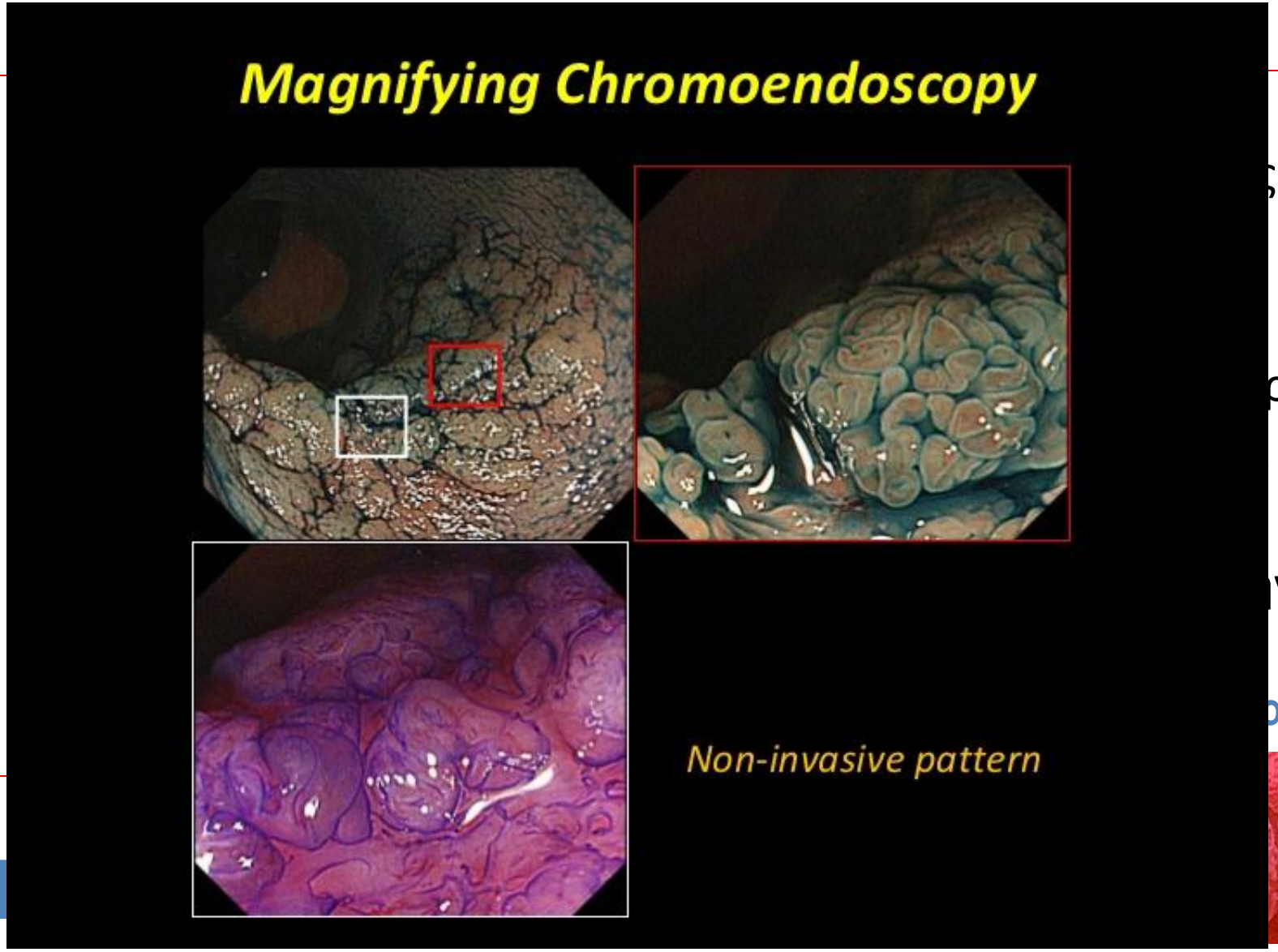
- A good bowel preparation is *conditio-sine-qua-non* for chromoendoscopy in the colon and up to 13% of patients may not meet this requirement.
- Differences in times of chromoendoscopy according to the quality of colon preparation were statistically significant.
- The rectal mucosa poorly prepared for staining deteriorates the quality of methylene blue staining of the rectum.
- Colon mechanically purified with polyethylene
- Islands of poorly stained mucosa -Additional rinsing
- 0.5% solution of glycerin or mucolytic preparation (10–20% N-acetylcysteine) to remove the mucus remains
- The use of *n*-butylscopolamine is recommended to avoid bowel peristalsis and an uneven distribution of the dye.

Annese v et al, JCC 2013

Ενδοσκοπικές τεχνικές απεικόνισης (endoscopic imaging techniques)



i) Οπτικά ενδοσκόπια HD/μεγεθυντικά



ASGE

Μεγεθυντική ενδοσκόπηση & πρόγνωση νεοπλασίας & άλλων βλαβών του βλεννογόνου

- **350 pts**. UC→ high magnification chromoscopic colonoscopy (HMCC)
- **vs. 350 μάρτυρες** με

- **Αναδρομική** μελέτη

Τύπος ενδοσκοπίου	No ενδοσκοπήσεων	No ασθενών	No δυσπλ. βλαβών	Adjusted Prevalence Ratio στοχ. bx	Confidence interval (95%)
SD	160	101 EK 59 CD	11 (6 στοχ.)	2,21	1,09-4,45
HD	209	147 EK 62 CD	32 (27 στοχ.)	2,99	1,16-7,79

- Ανιχνεύσιμες οι περισσότερες δυσπλαστικές εστίες
- Όμως καλύτερα αποτελέσματα με high definition, high resolution ενδοσκόπια

Rutter MD et al, GIE 2004
Subramanian V et al ,IBD 2013

Table 2 Total number of biopsies taken and the diagnostic yield for intraepithelial neoplasia in the HMCC group and in the control group. There were 350 patients in each group

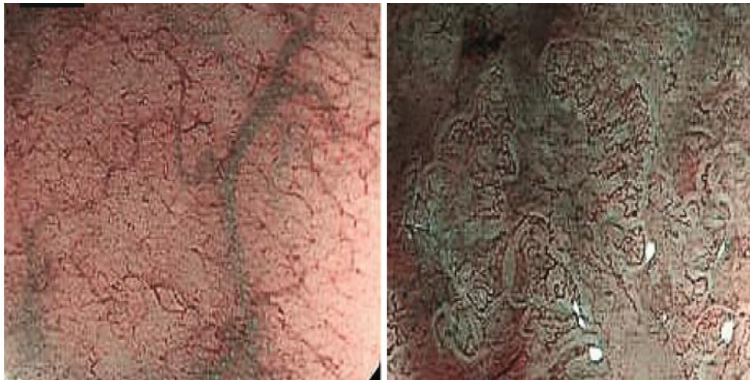
	No. of biopsies	*Median number of biopsies per patient (range)*	*Number of biopsies with intraepithelial neoplasia*	*% of biopsies with intra-epithelial neoplasia*
HMCC group (13494 biopsies)				
Non-targeted biopsies	12850	42 (11–64)	20	0.16%
Targeted biopsies (using HMCC)	644	3 (1–16)	49	8%
Control group (12851 biopsies)				
Non-targeted biopsies	12482	38 (14–58)	18	0.14%
Targeted biopsies (non-HMCC-guided)	369	3 (1–9)	6	1.6%

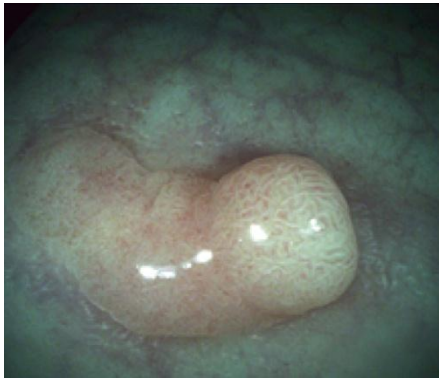
Hurlstone DP et al, Endoscopy 2005

ii) Χρωμο-ενδοσκόπηση χωρίς χρωστικές

- **Οπτική** χρωμο-ενδοσκόπηση (**NBI-Olympus**, CBI-Aohua Photoelectricity)
  - Χρήση οπτικών φίλτρων διαμέσου της πηγής φωτισμού
  - Στενεύει το εύρος του εκπεμπόμενου φάσματος του λευκού φωτός
  - Ενισχυμένη επισκόπηση της αγγείωσης & της αρχιτεκτονικής βλεννογόνου

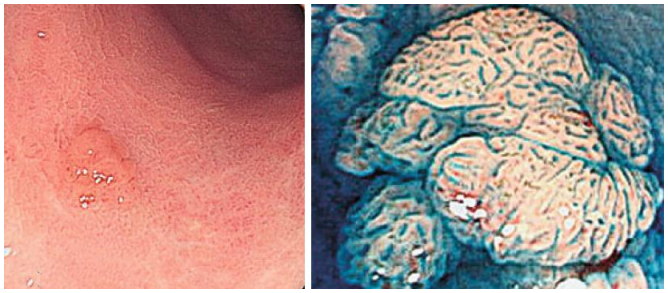
- **Ψηφιακή** χρωμο-ενδοσκόπηση (**i-scan-Pentax, FICE-Fujifilm, SPIES-Karl Stortz**)
  - Χρήση ψηφιακών αλγορίθμων μετά την επεξεργασία της εικόνας
  - Ανακατασκευή της ενδοσκοπικής εικόνας σε πραγματικό χρόνο





Dekker E et al, Endoscopy 2007
Naymagon S et al, Gastrointest Endosc Clin N Am 2013

NBI για ανίχνευση δυσπλασίας στην ΕΚ



- Αρχικά:
- Ακρίβεια για ανίχνευση νεοπλασίας
- **Περισσότερες ύποπτες βλάβες** με NBI
- **Συγκρίσιμα αποτελέσματα** με συμβατική

Dekker E et al, Endoscopy 2007

- Η ανάλυση του pit pattern με NBI έχει **μέτρια** ακρίβεια για την πρόγνωση της ιστολογίας

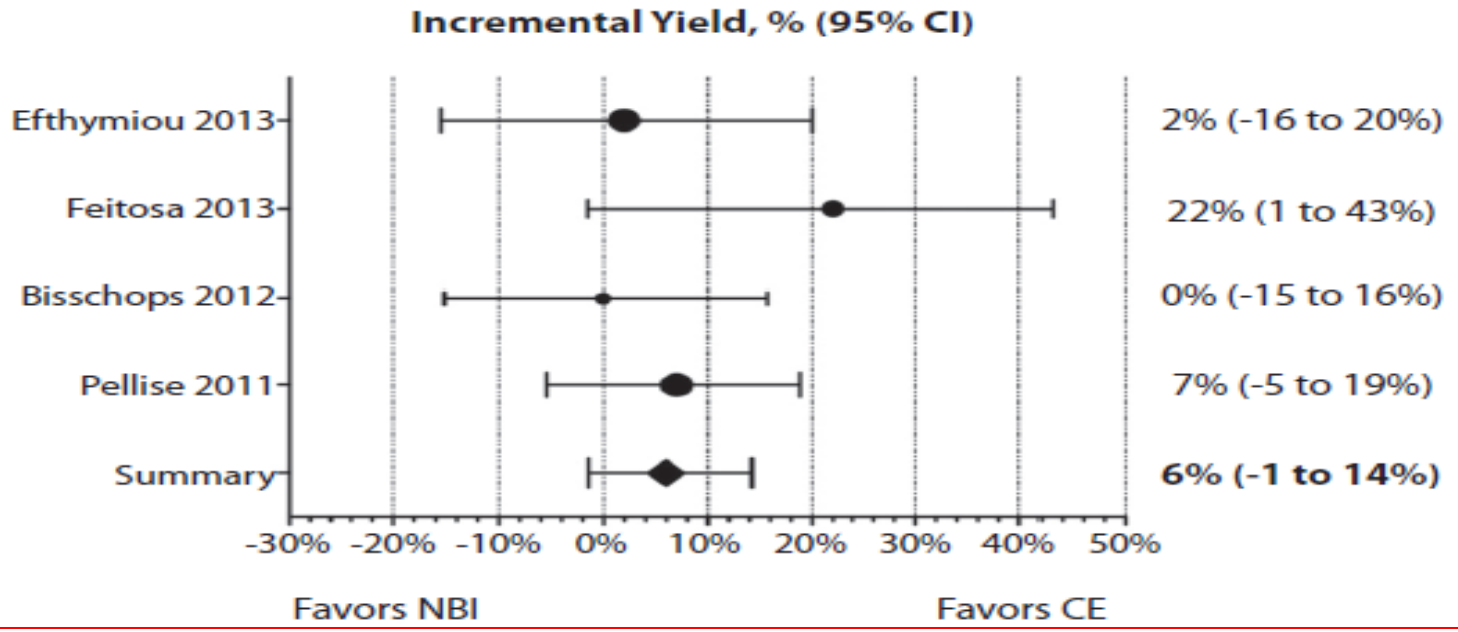
Van ben Broek FJ et al, Gut 2008

- Η χρήση του NBI **δε βελτιώνει την ανίχνευση νεοπλασίας** σε σχέση με HD

Van ben Broek FJ et al, Endoscopy 2011

NBI vs χρωμοενδοσκόπηση (DBC)

Αυξητική απόδοση ασθενών με ενδοσκοπικά ορατή δυσπλασία σε ενδοσκόπηση επιτήρησης NBI vs CE



- ✓Χωρίς στατιστικά σημαντική διαφορά
- ✓Μόνο βελτίωση σε σχέση με το χρόνο της εξέτασης
- ✓Με τα υπάρχοντα δεδομένα δεν προτείνεται

Laine L et al, Gastro 2015

DLC (i-scan) vs HD WLE

Περιορισμένες αναφορές για χρήση ψηφιακής χρωμοενδοσκόπησης

78 ασθ ΙΦΝΕ

	WLE	i-scan	P
Πρόγνωση έκτασης νόσου	49%	92%	0,0009
Πρόγνωση ενεργότητας νόσου	54%	90%	0,066
Διάρκεια εξέτασης	**18min**	**20,5min**	**NS**

Neumann H et al, IBD 2013

Gastroenterology. 2017 May;152(6):1337-1344.e3. doi: 10.1053/j.gastro.2017.01.008. Epub 2017 Jan 23.

Full-Spectrum Endoscopy Improves Surveillance for Dysplasia in Patients With Inflammatory Bowel Diseases.

Leong RW[1], Ooi M[2], Corte C[3], Yau Y[4], Kermeen M[5], Katelaris PH[5], McDonald C[2], Ngu M[5].

Author information

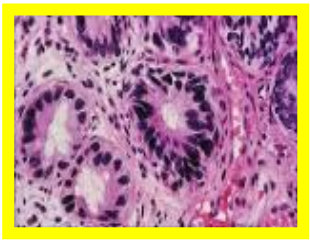
Abstract

BACKGROUND & AIMS: Inflammatory bowel diseases (IBDs) increase the risk of colorectal cancer. Surveillance colonoscopy with chromoendoscopy is recommended, but conventional forward-viewing colonoscopy (FVC) detects dysplasia with low levels of sensitivity. Full-spectrum endoscopy (FUSE) incorporates 2 additional lateral cameras to the forward camera of the colonoscope, allowing endoscopists to view behind folds and in blind spots, which might increase dysplasia detection. We compared FUSE vs FVC in the detection of dysplasia in patients with IBDs.

METHODS: We performed a prospective, randomized, cross-over, tandem colonoscopy study comparing FVC vs FUSE in 52 subjects with IBD undergoing surveillance for neoplasia in Australia (23 with Crohn's colitis, 29 with ulcerative colitis; median age, 45.0 y; 60% male; mean IBD duration, 16.4 y). All subjects met national IBD surveillance inclusion criteria; 27 were assigned randomly to groups that underwent FVC followed by FUSE, and 25 were assigned to groups that underwent FUSE followed by FVC. All procedures were performed from February 2014 through December 2015. Random biopsy specimens were collected and visible lesions were collected; all were analyzed histologically. The primary end point was dysplasia missed by the first colonoscopy detected by the second colonoscopy. Dysplasia was diagnosed by an expert gastrointestinal pathologist blinded to the colonoscope allocation in consensus with a second expert pathologist.

RESULTS: FVC missed 71.4% of dysplastic lesions per lesion whereas FUSE missed 25.0% per lesion (P = .0001); FVC missed 75.0% of dysplastic lesions per subject and FUSE missed 25.0% per subject (P = .046). FUSE identified a mean of 0.37 dysplastic lesions and FVC identified a mean of 0.13 dysplastic lesions (P = .044). The total colonoscopy times were similar (21.2 min for FUSE vs 19.1 min for FVC; P = .32), but withdrawal time was significantly longer for FUSE (15.8 min) than for FVC (12.0 min) (P = .03). Correcting for per-unit withdrawal time, the mean dysplasia miss rate per subject was significantly lower for FUSE (0.19) than for FVC (0.83; P < .0001). Targeted tissue acquisition identified significantly more dysplastic lesions than random biopsies (P < .0001).

CONCLUSIONS: In a prospective cross-over study of IBD patients undergoing surveillance colonoscopy, we found panoramic views obtained by full-spectrum endoscopy increased the number of dysplastic lesions detected, compared with conventional forward-viewing colonoscopy. Trial no: ACTRN12616000047493.



European consensus on the histopathology of inflammatory bowel disease ☆

F. Magro[a,*,1], C. Langner[b,1], A. Driessen[c], A. Ensari[d], K. Geboes[e], G.J. Mantzaris[f], V. Villanacci[g], G. Becheanu[h], P. Borralho Nunes[i],

13.4. Diagnosis of dysplasia

ECCO Statement 13J

A finding of dysplasia should be confirmed by an independent gastrointestinal specialist pathologist [EL2] [Voting results: 100% agreement].

Πόσες (μη στοχευμένες) βιοψίες απαιτούνται για την επιτήρηση?????

Consensus Conference: Colorectal Cancer Screening and Surveillance in Inflammatory Bowel Disease

Steven H. Itzkowitz, MD, and Daniel H. Present, MD, for the Crohn's and Colitis Foundation of America Colon Cancer in IBD Study Group

Colonoscopic Practice

For patients with extensive disease, a minimum of 33 biopsies should be performed. This involves taking 4-quadrant biopsies every 10 cm throughout the colon. In patients with less extensive microscopic disease found at screening, 4-quadrant biopsies should be taken from the proximal extent of disease and every 10 cm distally. Particularly in UC, consideration should be given to taking 4-quadrant biopsies every 5 cm in the lower sigmoid and rectum, because the frequency of CRC is higher in this region.[25]

Tissue Handling

Ideally, the colonoscopist and his/her assistants should place all biopsies from a given segment in a separate specimen jar. If feasible, biopsies should be "unrolled" from their ball-like shape after removal from biopsy forceps to facilitate histologic interpretation. Use of jumbo biopsy forceps should be considered to minimize sampling errors. There is often a limit to the number of biopsies that can be physically embedded in 1 tissue block; it is suggested that no more than 4 biopsies should be placed in any 1 jar. Specimens from raised or suspicious lesions should be placed in separate, appropriately labeled jars.

ΒΡΗΚΑΜΕ ΤΗ ΔΥΣΠΛΑΣΙΑ! ΤΙ ΚΑΝΟΥΜΕ ΤΩΡΑ???

Use the three parameters that define principles of dysplasia management (regardless of whether or not they have IBD)

1. Rate of progression of dysplasia to advanced dysplasia or CRC (metachronous)
2. Rate of occult cancer in patients diagnosed with dysplasia (synchronous)
3. Resectability of the dysplastic lesion

Can I see it?	Is it discreet?	Can I resect it?

ΔΥΣΠΛΑΣΙΑ ΣΕ ΜΗ ΟΡΑΤΗ ΒΛΑΒΗ

2015 "SCENIC" Recommendations

Management of dysplasia discovered on surveillance colonoscopy
After complete removal of endoscopically resectable polypoid dysplastic lesions, surveillance colonoscopy is recommended rather than colectomy (strong recommendation, very low-quality evidence).
After complete removal of endoscopically resectable nonpolypoid dysplastic lesions, surveillance colonoscopy is suggested rather than colectomy (conditional recommendation, very low-quality evidence).
For patients with endoscopically invisible dysplasia (confirmed by a gastrointestinal pathologist) referral to an endoscopist with expertise in IBD surveillance using chromoendoscopy with high-definition colonoscopy is suggested (conditional recommendation, very low-quality evidence).

IE NO FIRM RECOMMENDATION
Revert back to 2010 Guidelines

Laine et al. Gastro 2015;148:639

Συμπεράσματα

Time period	Paradigm
Precolonoscopy (1925-1970's)	CRC is natural history; limited ability to detect precancerous lesions; surgical option-ileostomy
Early colonoscopy (1970's-1990's)	Limited optics compared to today, role of colonoscopy is "biopsy surveillance;" IBD dysplasia is mostly invisible-most goes to surgery; introduction of pouch
Early new century (2000-2010 or so)	Improved optics; New concepts-polypectomy not surgery for certain types dysplasia and IBD-dysplasia is mostly visible; laparoscopic surgical techniques improve outcomes
Present time (2017)	Introduction of chromoendoscopy and EMR; More parsimonious approach to management of dysplasia, more selective instead of universal use of surgery for dysplasia

-Velayos FS et al Gastro 2017

Συμπεράσματα

- ✓ Η **χρωμοενδοσκόπηση** είναι αξιόπιστη στην ανεύρεση δυσπλασίας στις ΙΦΝΕ
- ✓ **Βελτιώνει την απόδοση** της ανίχνευσης δυσπλασίας σε σχέση με ενδοσκόπιο λευκού φωτός με τυχαίες βιοψίες

- ✓ Η τεχνική αυτή θα **πρέπει να ενσωματωθεί** στην καθημερινή πρακτική
- ✓ Αναγκαίο να σχεδιαστούν **μελέτες** που να αναδεικνύουν την **πραγματική κλινική χρησιμότητα** της επιτήρησης των ασθενών με ΙΦΝΕ με τη **χρωμοενδοσκόπηση** ή τις **νεότερες** τεχνικές οπτικής βιοψίας (σε επίπεδο νοσηρότητας & θνητότητας)


ΕΥΧΑΡΙΣΤΩ