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Post-Operative Crohn's disease: why is the anastomosis so hard to characterize?

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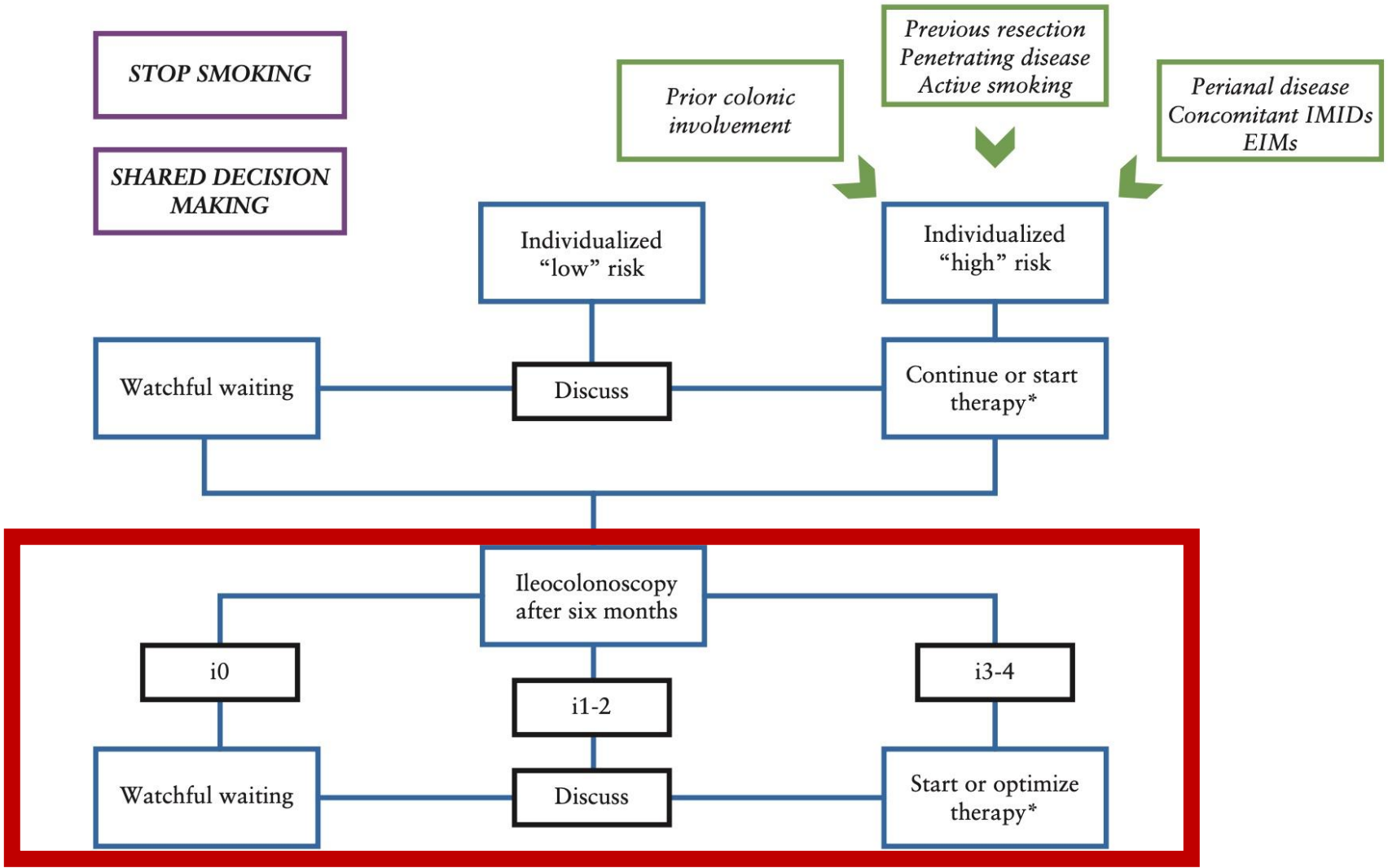
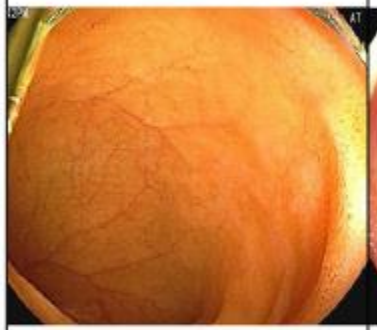
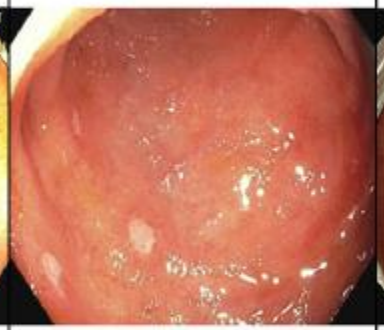
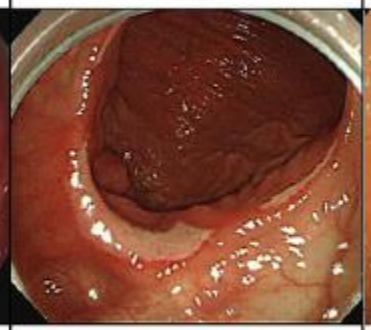
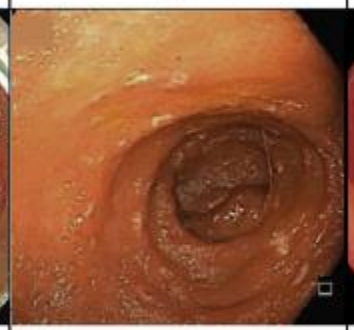
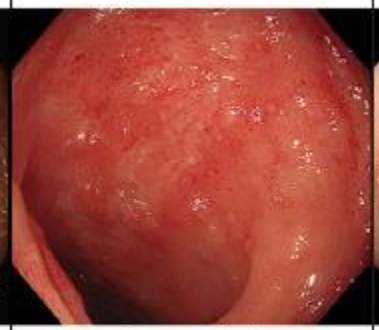
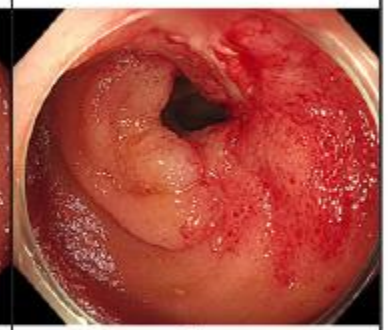
Results of the Eighth Scientific Workshop of ECCO: Prevention and Treatment of Postoperative Recurrence in Patients With Crohn's Disease Undergoing an Ileocolonic Resection With Ileocolonic Anastomosis

Marc Ferrante[1,2], Lieven Pouillon[3], Míriam Mañosa[4,5], Edoardo Savarino[6,7], Matthieu Allez[8], Christina Kapizioni[9], Naila Arebi[10], Michele Carvello[11], Pär Myrelid[12], Annemarie C. De Vries[13], the 8th Scientific Workshop of the European Crohns and Colitis Organisation, Pauline Rivière[14], Yves Panis[15], Eugeni Domènech[4,5]



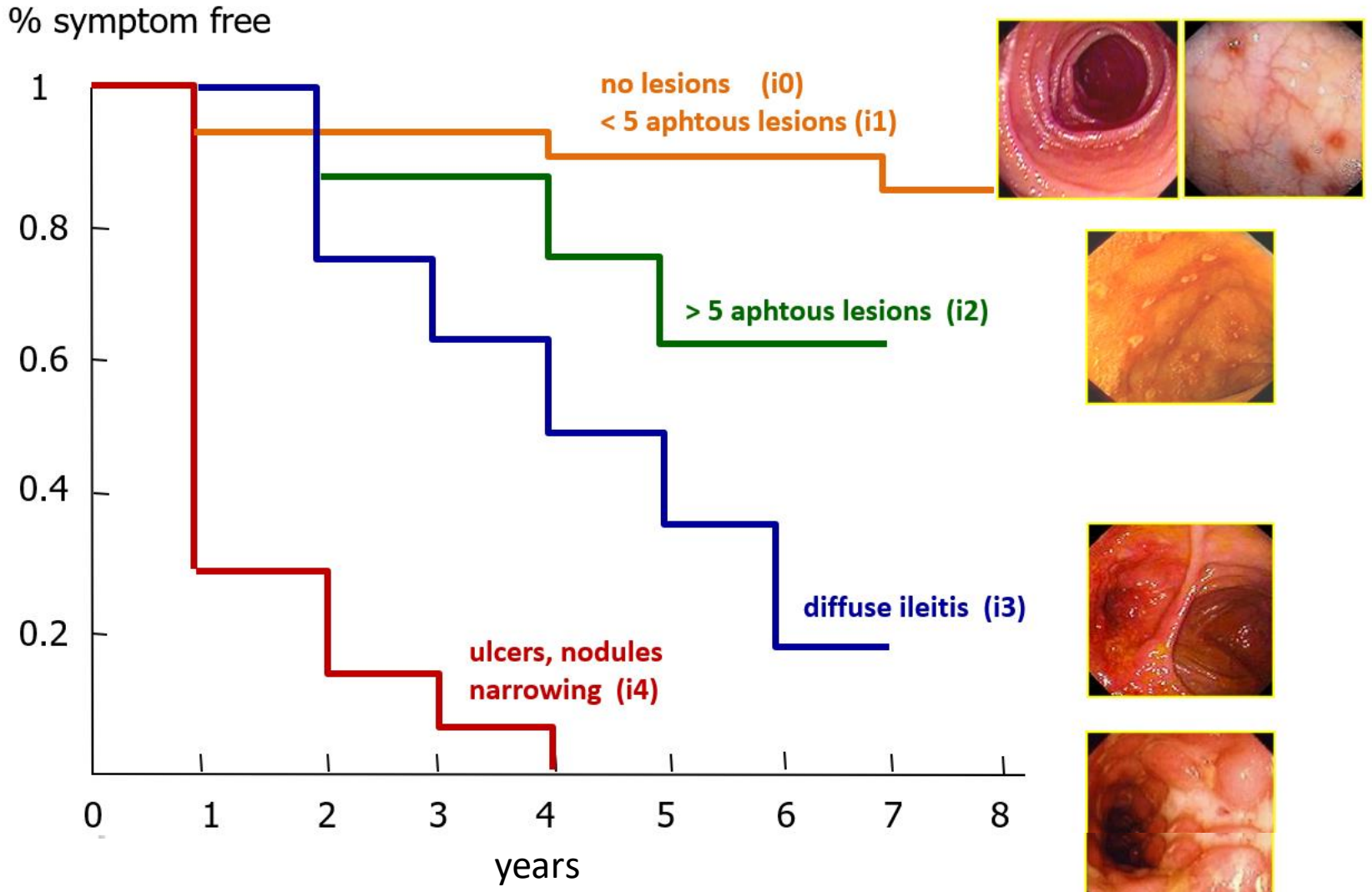
Ferrante, JCC 2023

Modified Rutgeert's score

i0	i1	i2		i3	i4
		i2a	i2b		
					
No lesion in distal ileum	≤5 Aphthous lesions	Lesions confined to ileocolonic anastomosis	>5 Aphthous lesions with normal mucosa between the lesions	Diffuse aphthous ileitis with diffusely inflammmed mucosa	Diffuse inflammation with already large ulcers and/or narrowing

Ileal and anastomotic lesions graded separately

Symptomatic recurrence according to the severity of endoscopic recurrence at 1-year colonoscopy



Rutgeerts P, et al. Gastroenterology 1990;99:956-63

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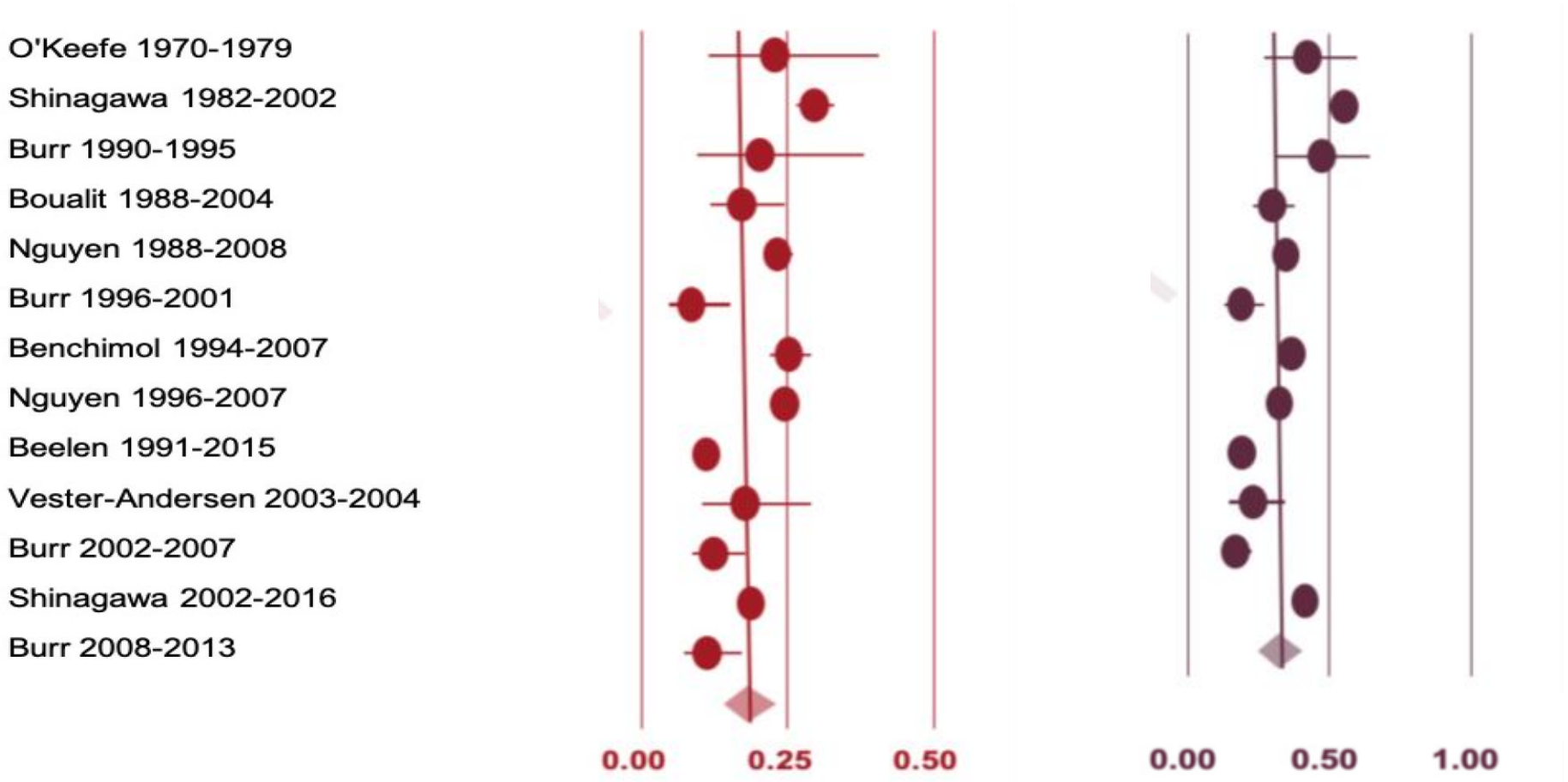
Risk of re-resection after a prior surgery

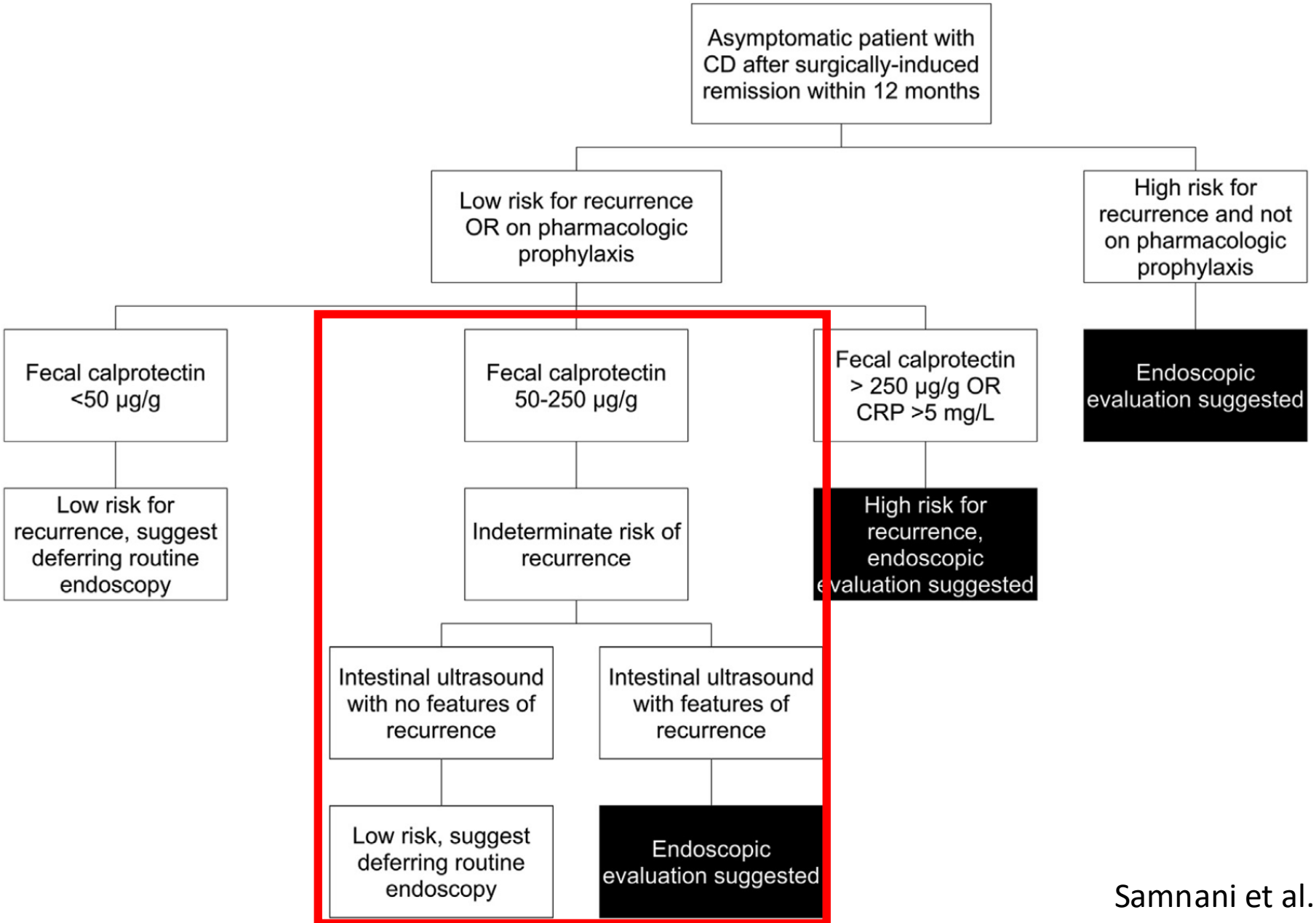


17.7% (13.5-22.9)

31.3% (24.1-39.6)

Tsai L, et al. Clinical Gastroenterology and Hepatology 2021;19:2031-45

Role of IUS.....



Samnani et al. CGH 2025

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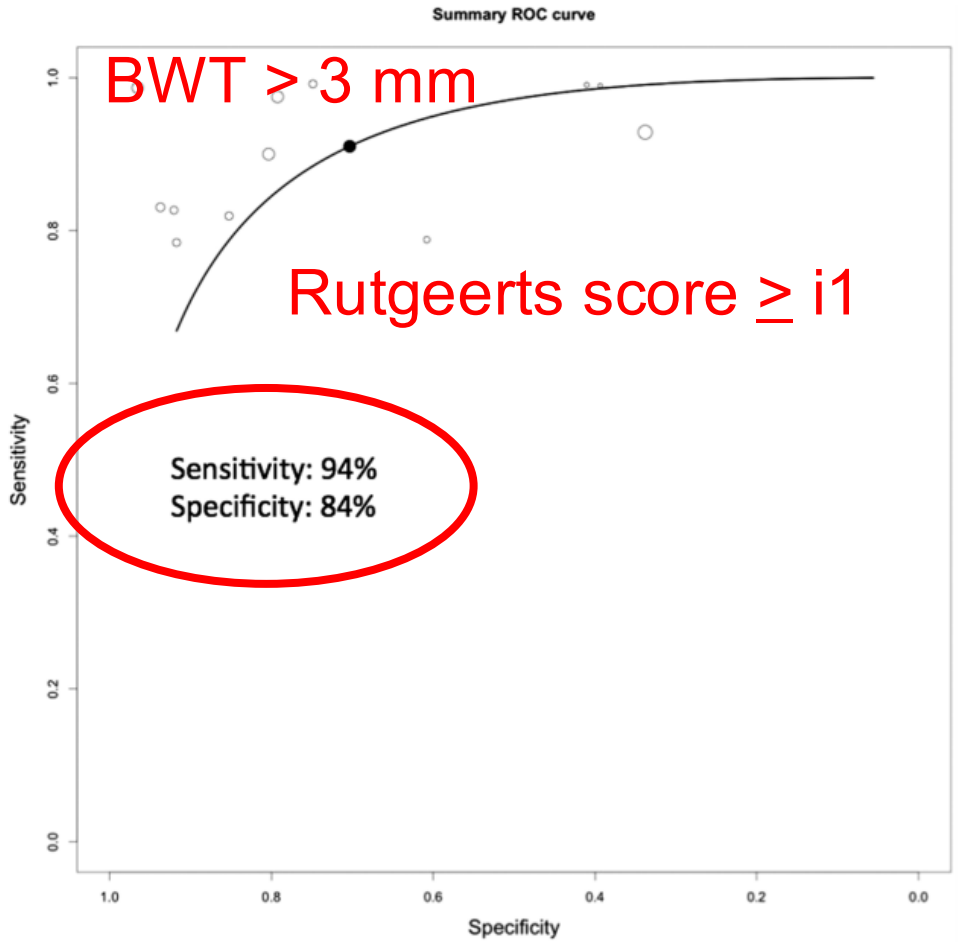
IUS has a diagnostic accuracy of 90% in detecting POR: results from a Systematic review with Meta-analysis



Rispo A et al. IBD 2018

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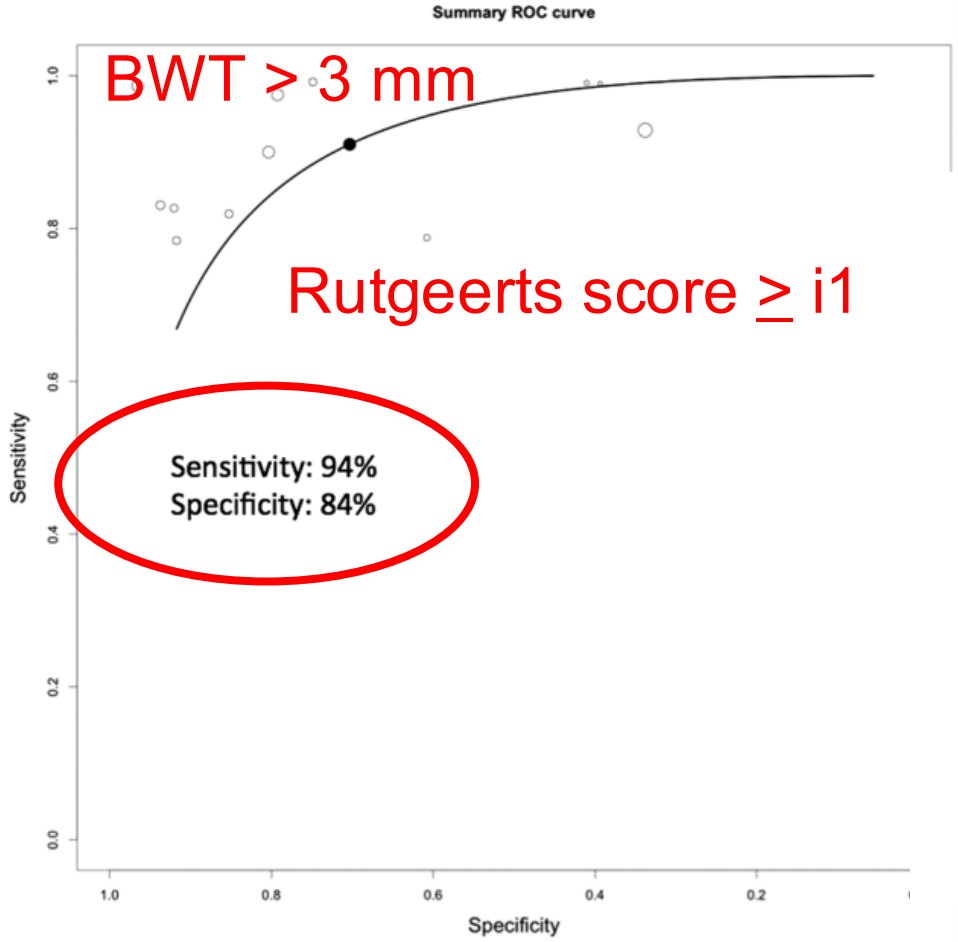
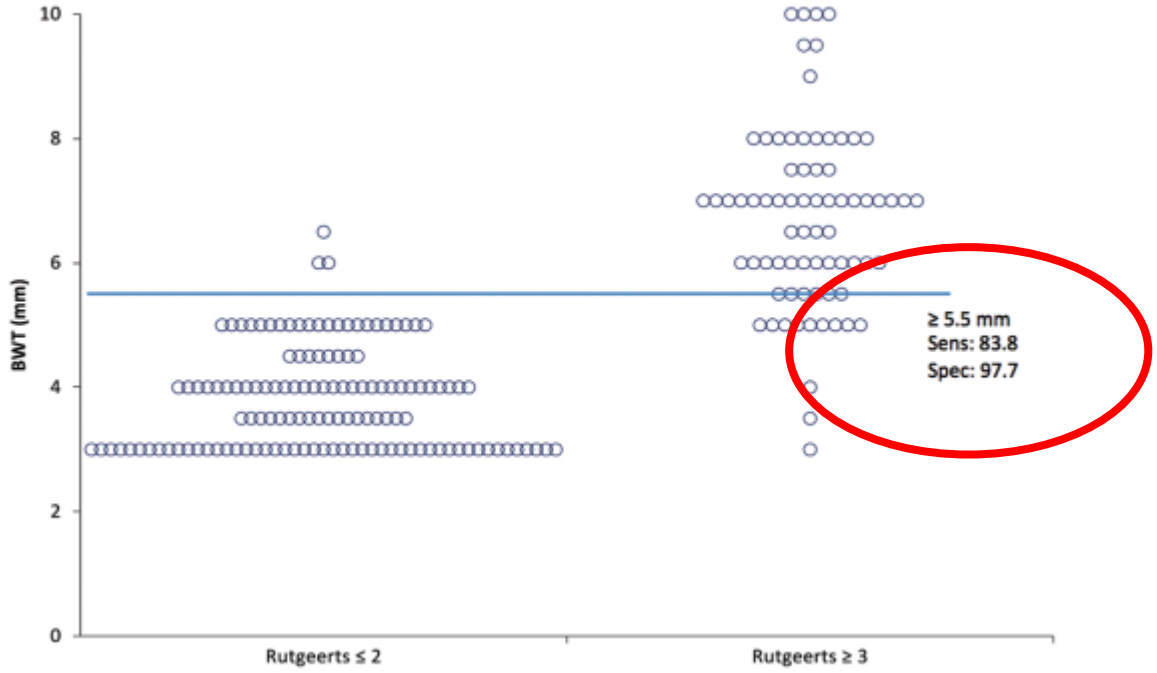


BWT ≥ 5.5 mm is the best cut-off to predict Rutgeerts score i3-i4

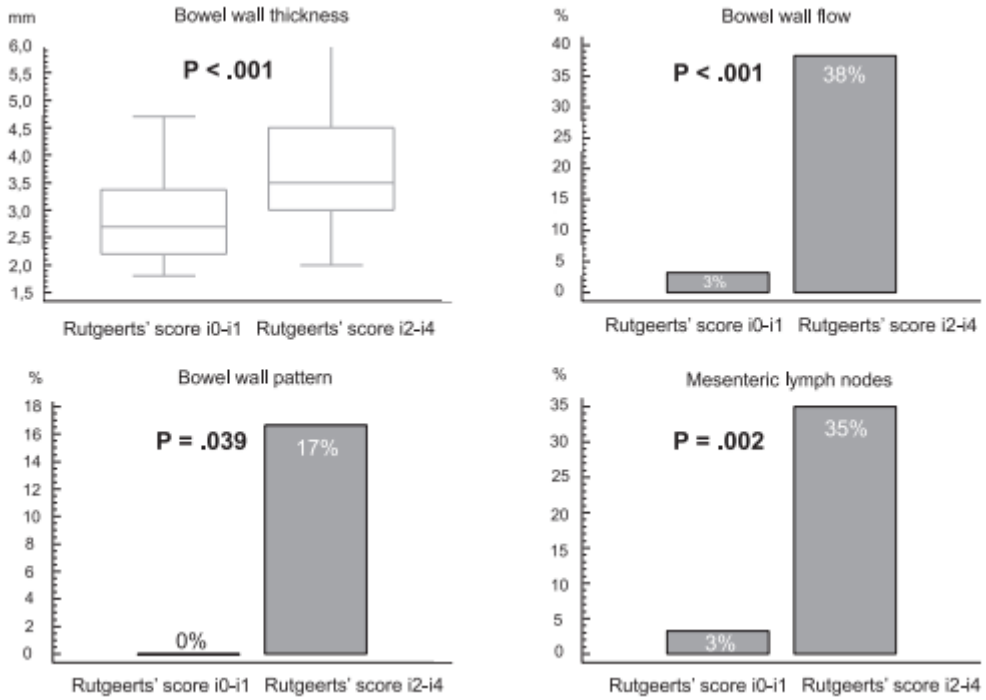


Rispo A et al. IBD 2018

Noninvasive Assessment of Postoperative Disease Recurrence in Crohn's Disease: A Multicenter, Prospective Cohort Study on Behalf of the Italian Group for Inflammatory Bowel Disease

Federica Furfaro,[1] Ferdinando D'Amico,[1,2] Alessandra Zilli,[1] Vincenzo Craviotto,[3] Annalisa Aratari,[4] Cristina Bezzio,[5] Antonino Spinelli,[3] Daniela Gilardi,[6] Simona Radice,[1] Simone Saibeni,[5] Claudio Papi,[4] Laurent Peyrin-Biroulet,[7,8] Silvio Danese,[1,6] Gionata Fiorino,[1,6] and Mariangela Allocca[1,6]

Combination of IUS + FC vs ileocolonoscopy
91 patients; Post op recurrence in 66%



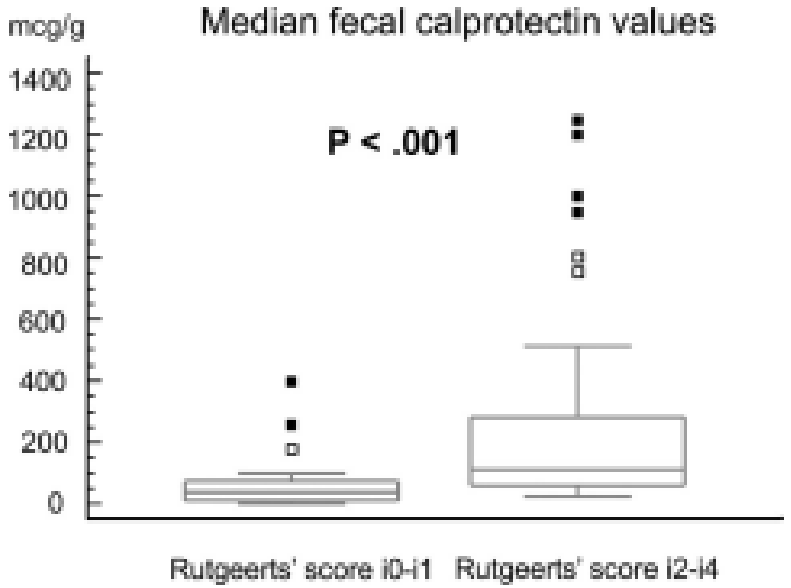
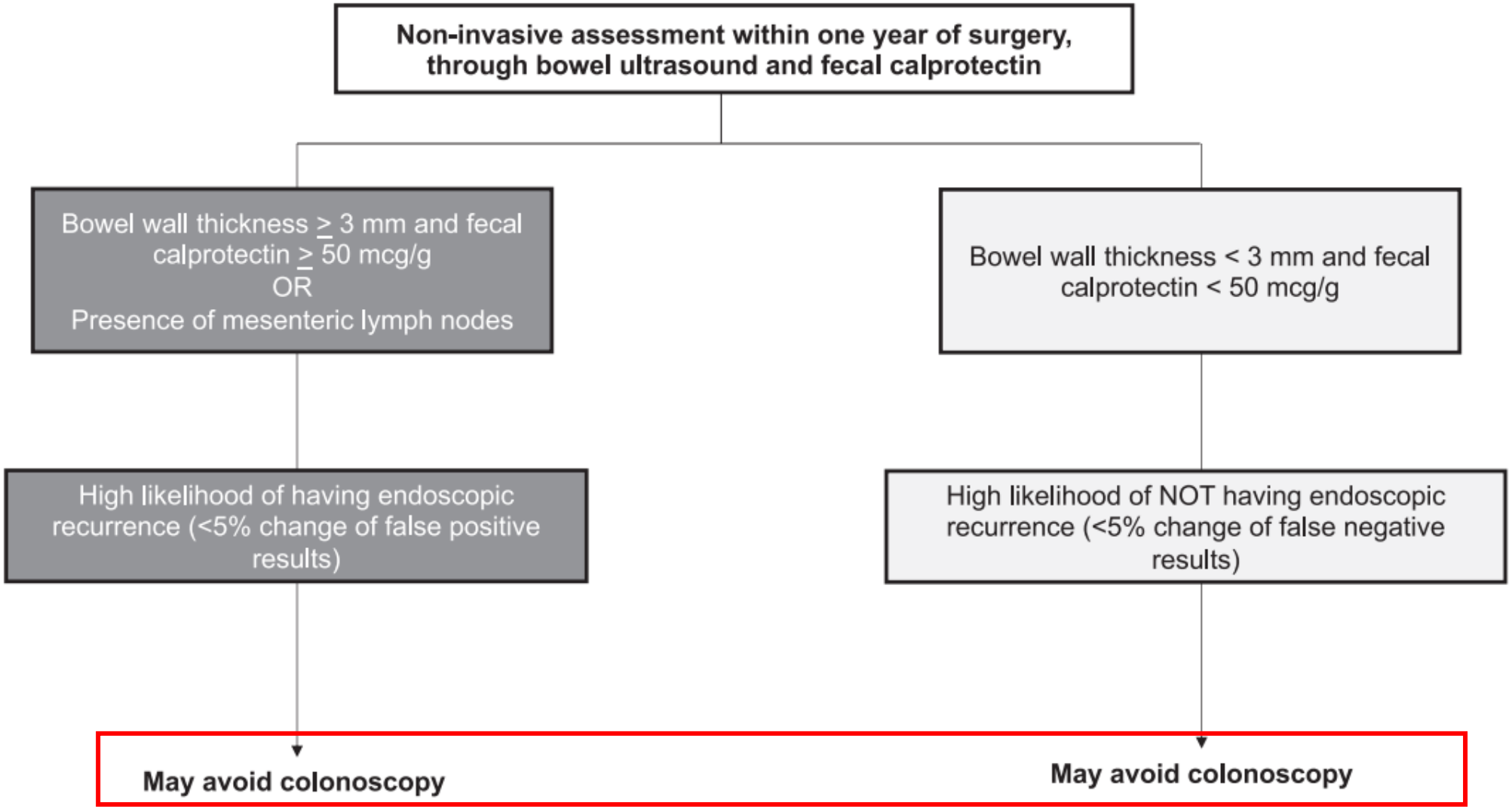


Table 2. Relationship Between Noninvasive Parameters and Endoscopic Recurrence

	Univariable analysis		Multivariable analysis	
Parameters	OR (95% CI)	*P*	OR (95% CI)	*P*
BWT (per 1-mm increase)	2.66 (1.49–4.72)	**< .001**	2.43 (1.21–4.89)	**.012**
BWF	18.64 (2.37–146.20)	**.005**	–	–
BWP (hypoechogenic/lost)	6.00 (0.73–49.23)	.095	–	–
Mesenteric lymph nodes	16.15 (2.05–126.97)	**.008**	15.63 (1.48–164.54)	**.022**
Mesenteric hypertrophy	7.50 (0.92–60.66)	.058	–	–
HBI > 4	3.42 (0.90–12.99)	.069	–	–
CRP ≥ 5 mg/L	3.50 (1.07–11.37)	**.037**	–	–
FC (per 1 mcg/g increase)	1.00 (1.00–1.01)	**.007**	–	–
FC ≥50 mcg/g	8.60 (2.99–24.70)	**< .001**	8.58 (2.45–29.99)	**< .001**

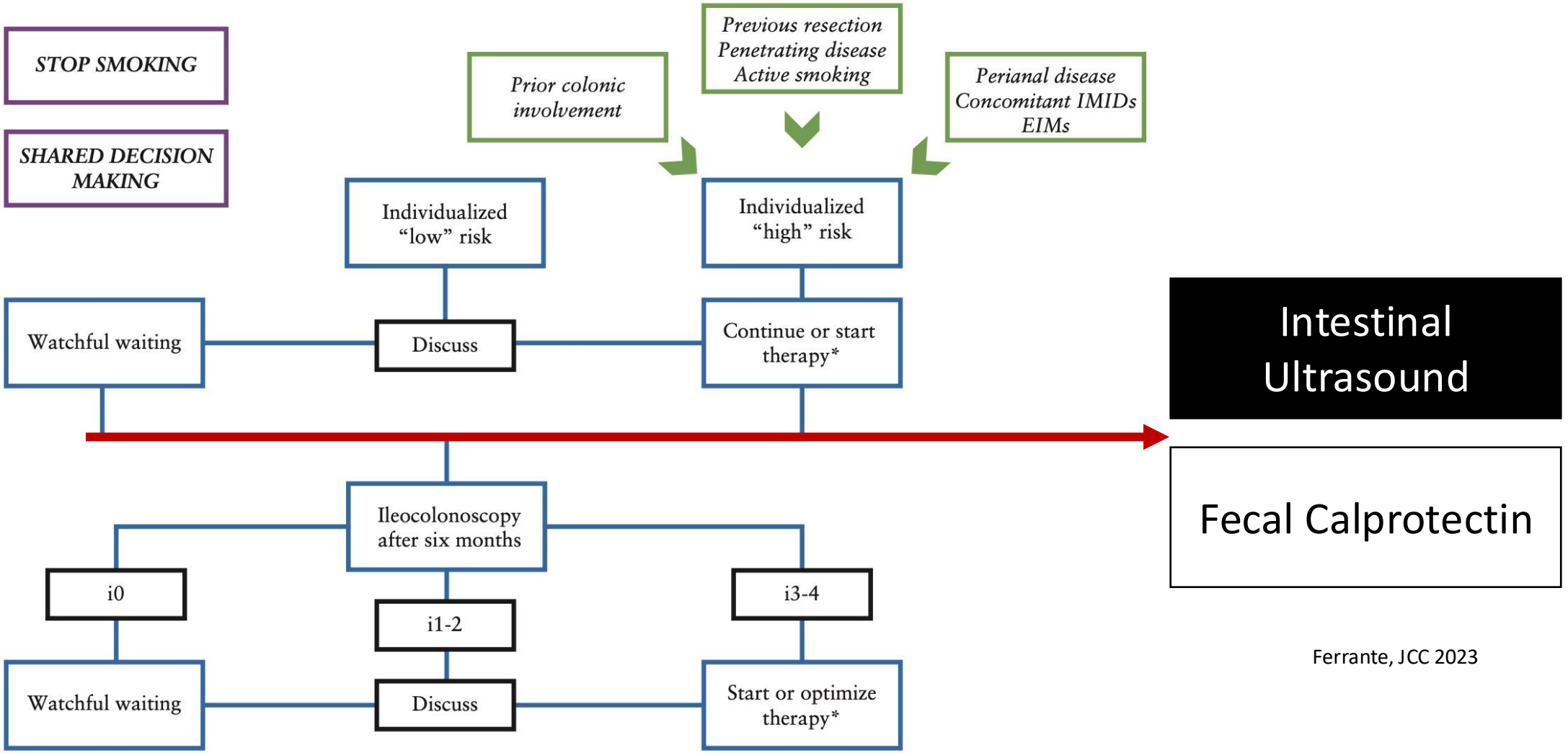
Furfaro et al. CGH 2023



Furfaro et al. CGH 2023

Results of the Eighth Scientific Workshop of ECCO: Prevention and Treatment of Postoperative Recurrence in Patients With Crohn's Disease Undergoing an Ileocolonic Resection With Ileocolonic Anastomosis

Marc Ferrante[1,2], Lieven Pouillon[3], Míriam Mañosa[4,5], Edoardo Savarino[6,7], Matthieu Allez[8], Christina Kapizioni[9], Naila Arebi[10], Michele Carvello[11], Pär Myrelid[12], Annemarie C. De Vries[13], the 8th Scientific Workshop of the European Crohns and Colitis Organisation, Pauline Rivière[14], Yves Panis[15], Eugeni Domènech[4,5]

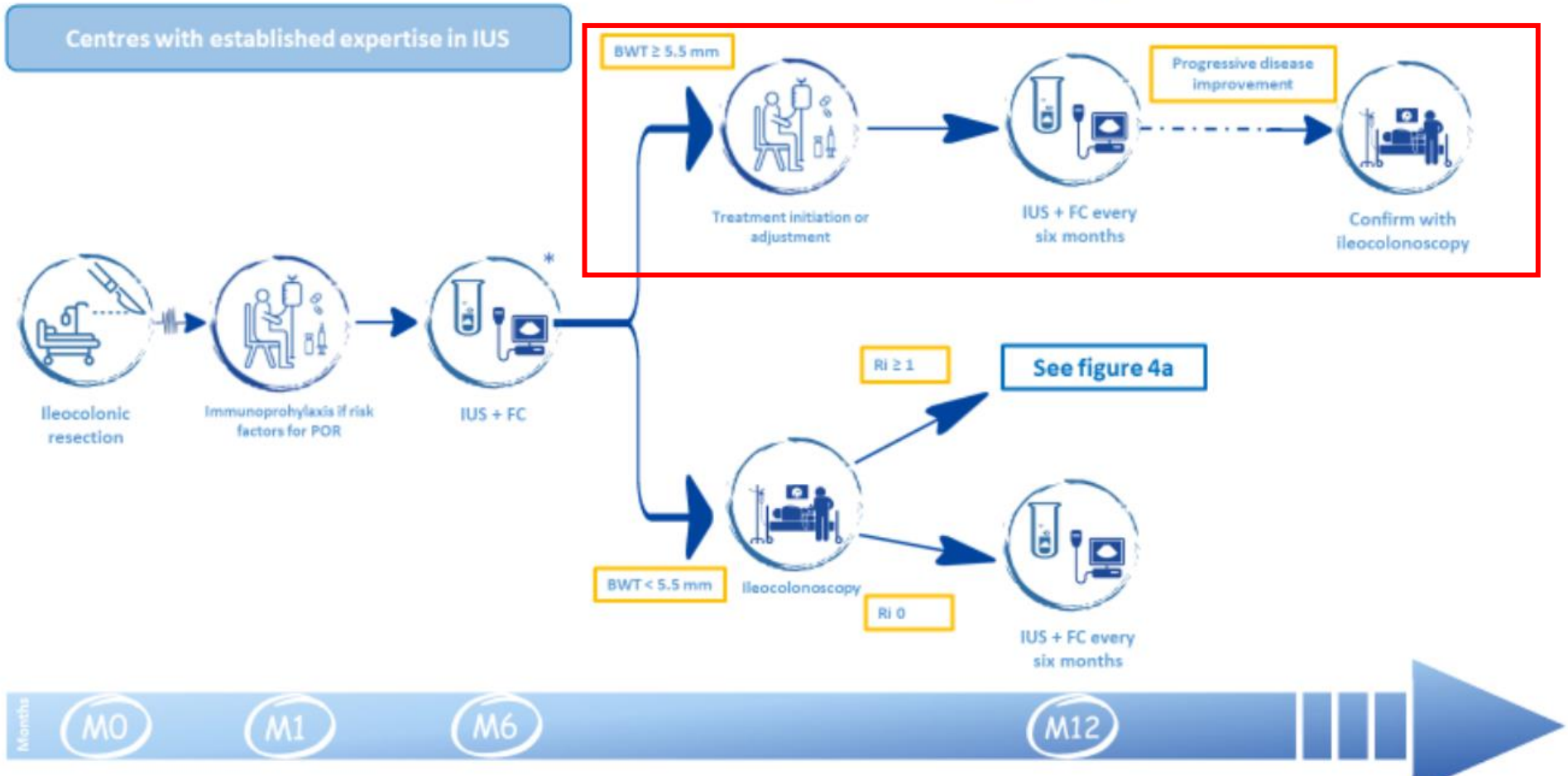


Ferrante, JCC 2023

Journal of Crohn's and Colitis, 2023, **17**, 1373–1386
https://doi.org/10.1093/ecco-jcc/jjad055
Advance access publication 18 April 2023
ECCO Scientific Workshop Paper

Results of the Eighth Scientific Workshop of ECCO: Diagnosing Postoperative Recurrence of Crohn's Disease After an Ileocolonic Resection With Ileocolonic Anastomosis

Gabriele Dragoni,[a,b] Mariangela Allocca,[c] Pär Myrelid,[d] Nurulamin M. Noor,[e] Nassim Hammoudi,[f] the Eighth Scientific Workshop of the European Crohn's and Colitis Organisation, Pauline Rivière,[g] Yves Panis,[h] Marc Ferrante[i,j]

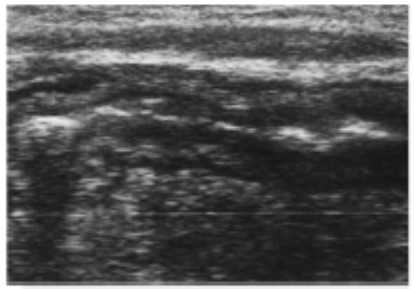


GIUS and SICUS for post-operative recurrence

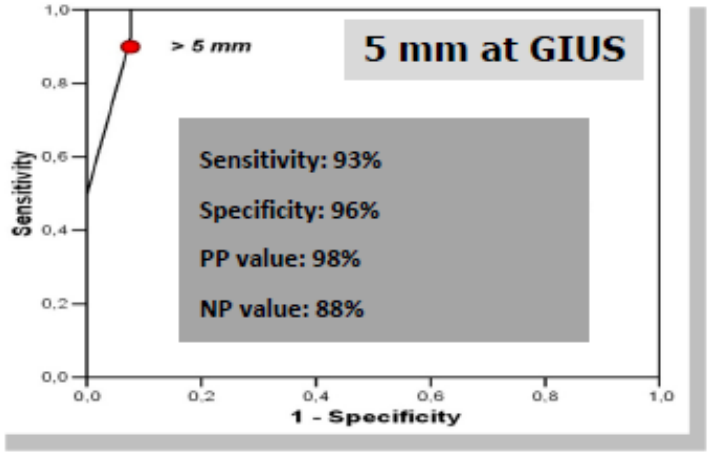
Diagnosis

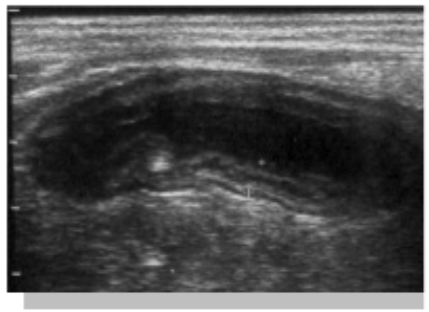
	SENSITIVITY	SPECIFICITY
US	77% (95% I.C. 54-92)	94% (95% I.C. 73-99)
SICUS	82% (95% I.C. 54-94)	94% (95% I.C. 73-99)

Grading (Rutgeert's score: 0-2 vs 3-4)

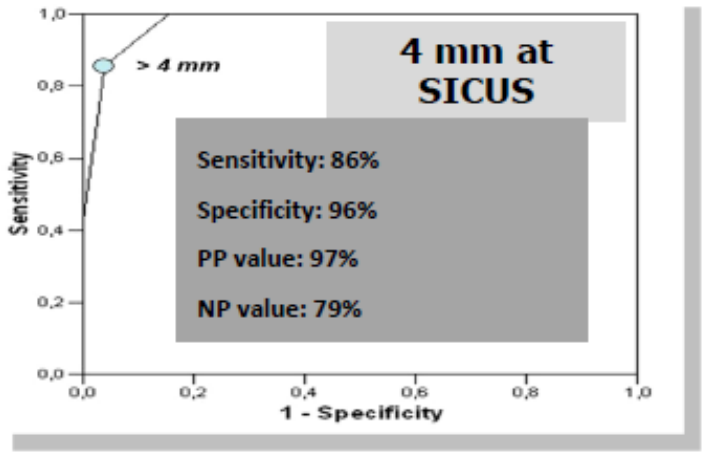


GIUS



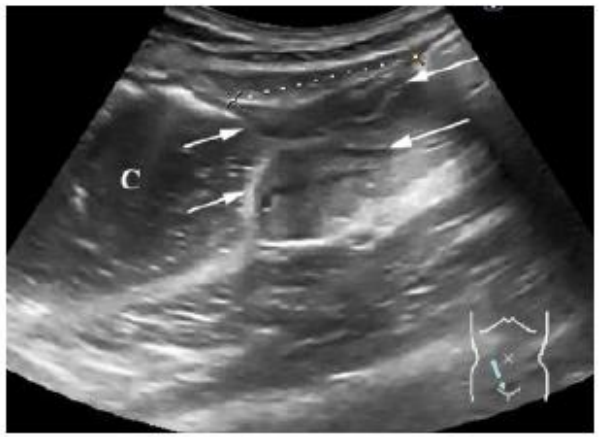


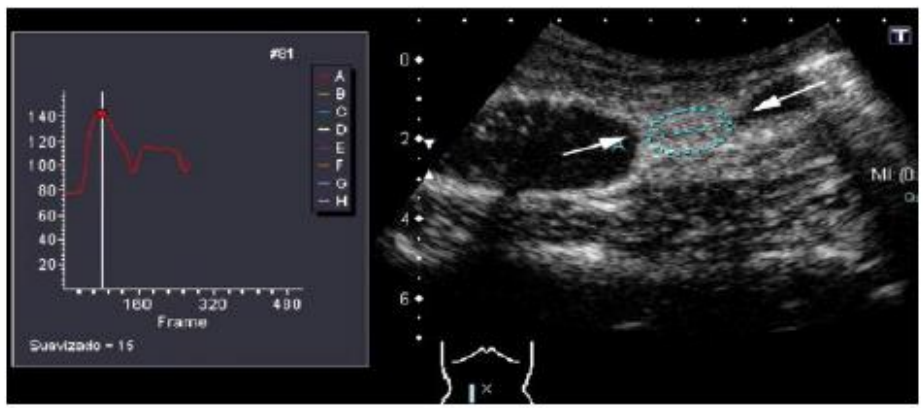
SICUS



Castiglione et al . IBD 2013

US Techniques and Diagnostic Accuracy



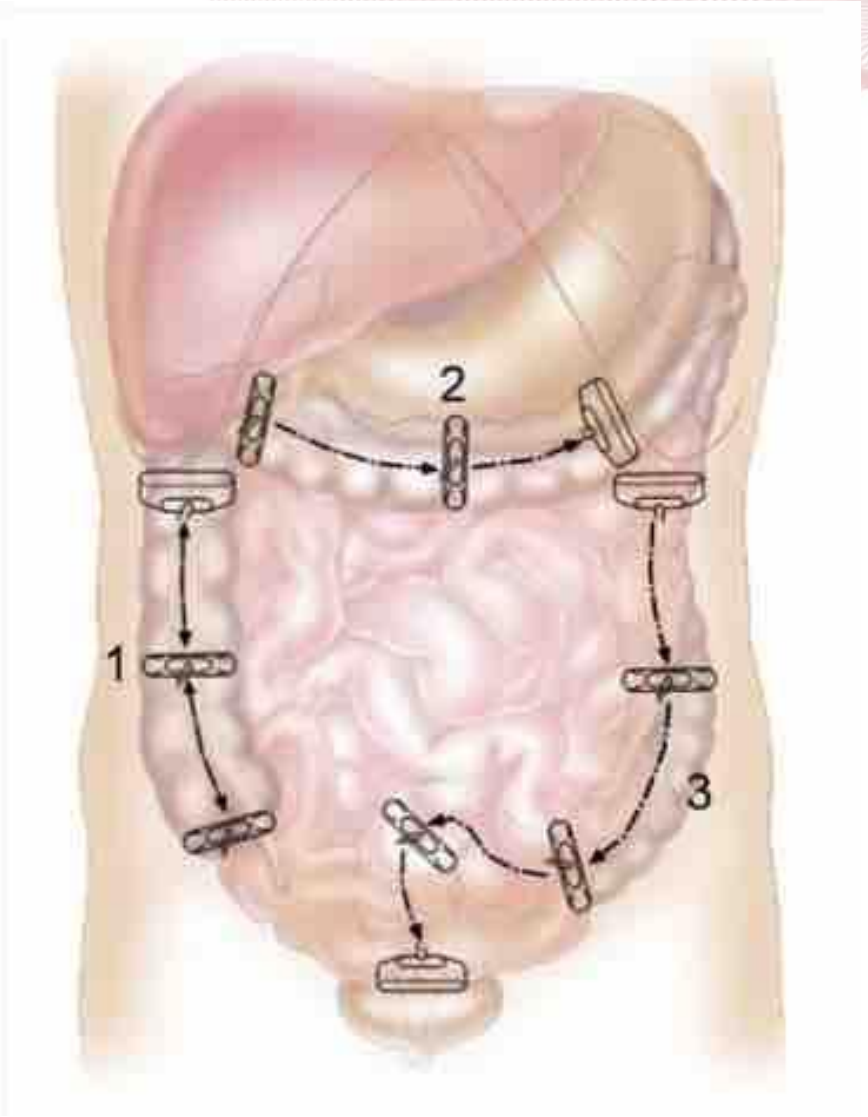


Paredes JCC 2013

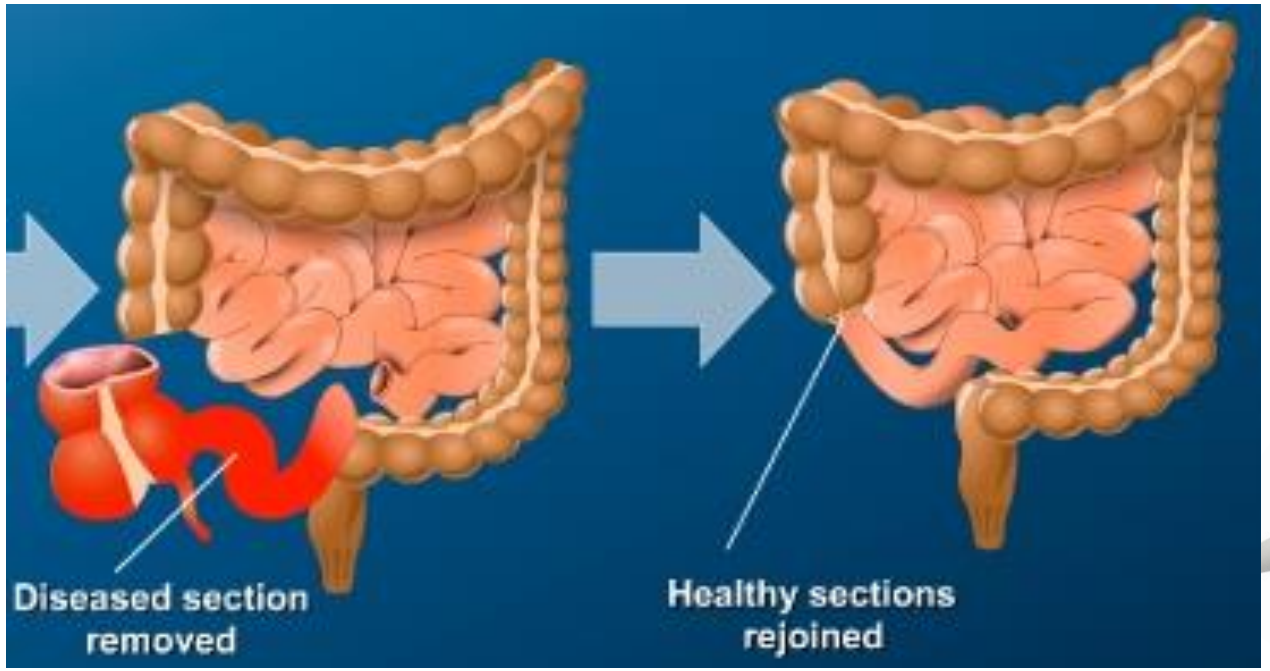
Color Doppler and CEUS

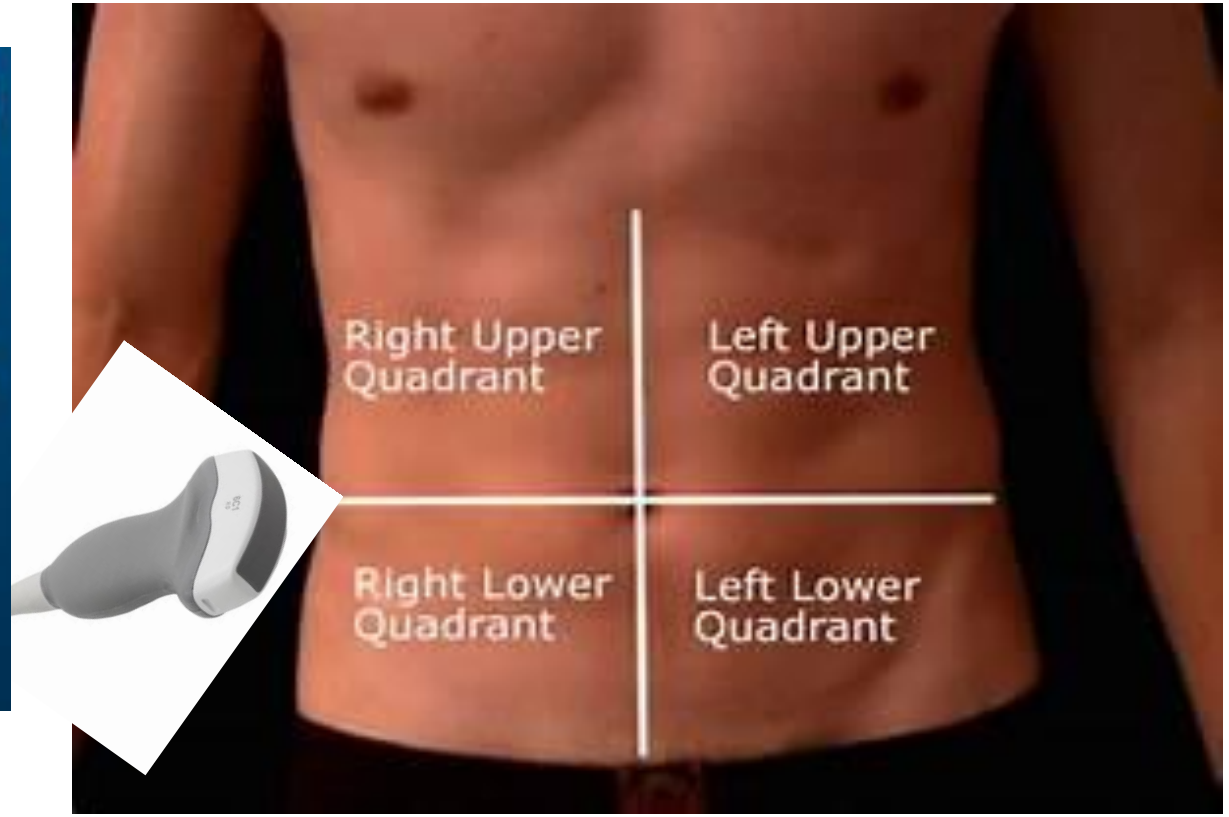
	Parietal thickness of the neoterminal ileum > 3 mm and/or Doppler positive	Contrast-enhanced of the neoterminal ileum > 34.5%
Positive true	44	48
False positive	2	2
Negative true	9	9
False negative	5	1
Sensitivity (95% CI)	89.8% (78.2–95.6)	98.0% (89.3–99.6)
Specificity (95% CI)	81.8% (52.3–94.9)	81.8% (52.3–94.5)
PPV (95% CI)	95.7% (85.5–98.8)	96.0% (86.5–98.9)
NPV (95% CI)	64.3% (38.8–83.7)	90.0% (59.6–98.2)

Scanning



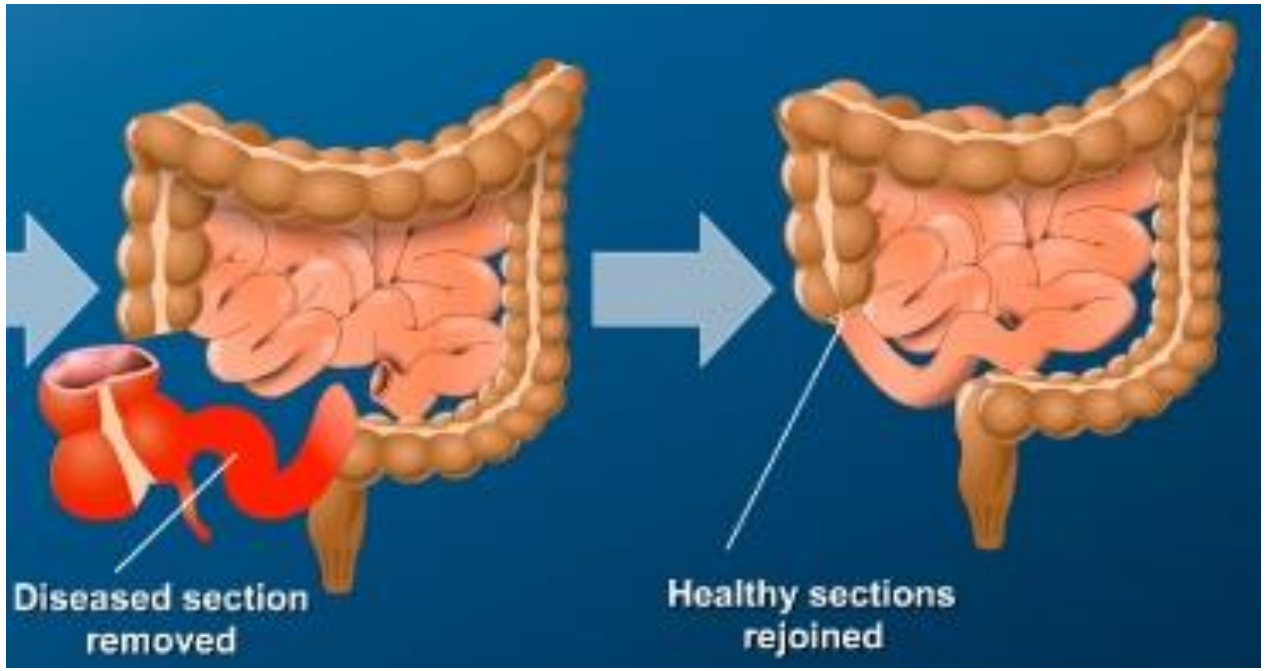
Anatomy Post-Surgery

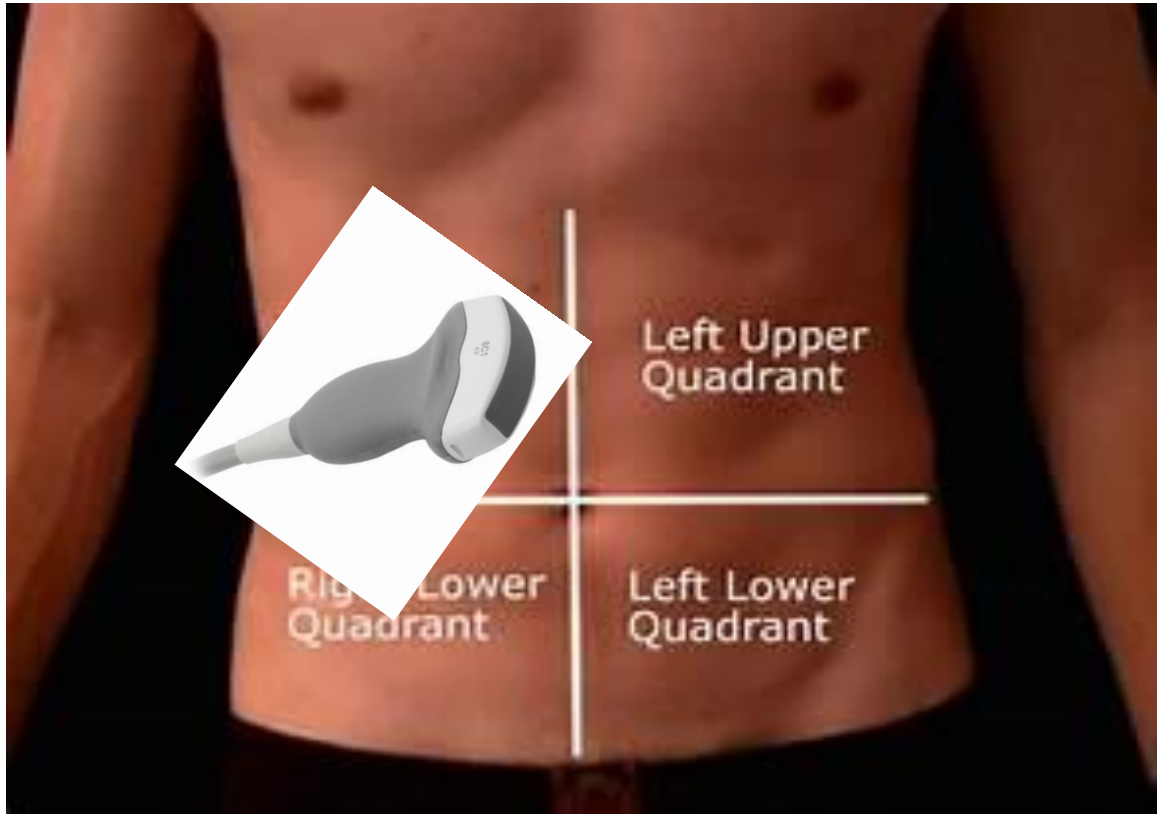


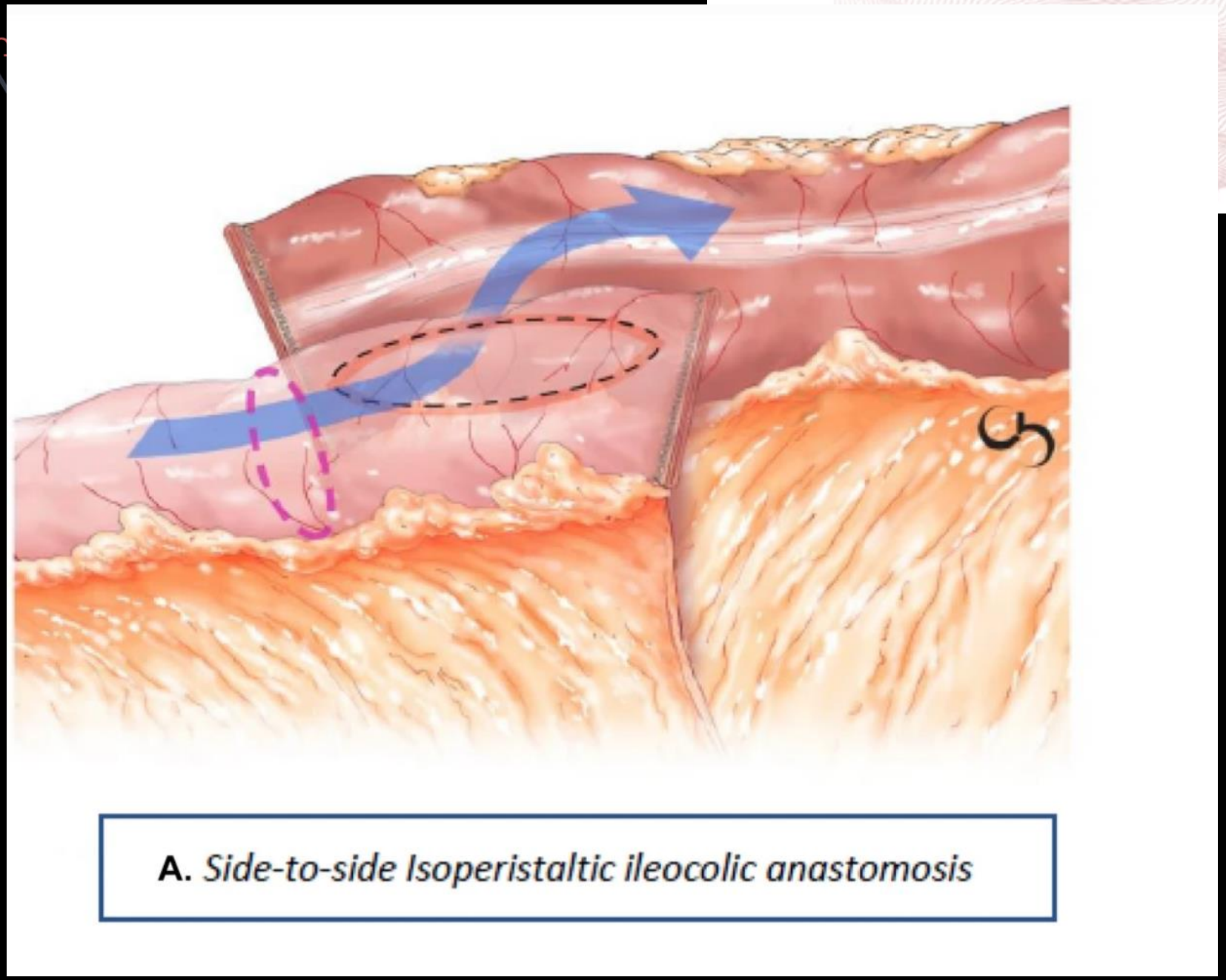


Anatomy – Post Surgery

Ileo-cecal resection

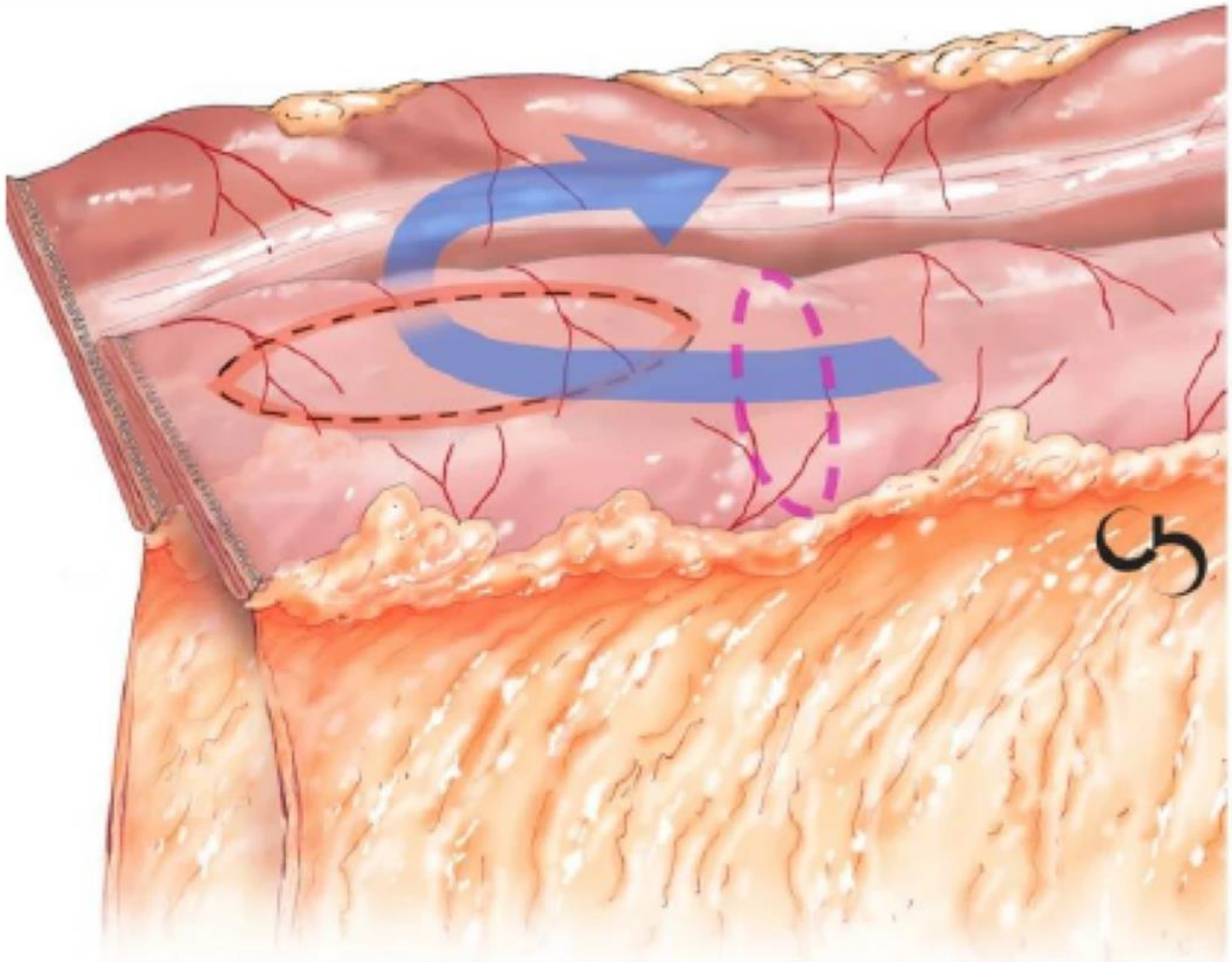




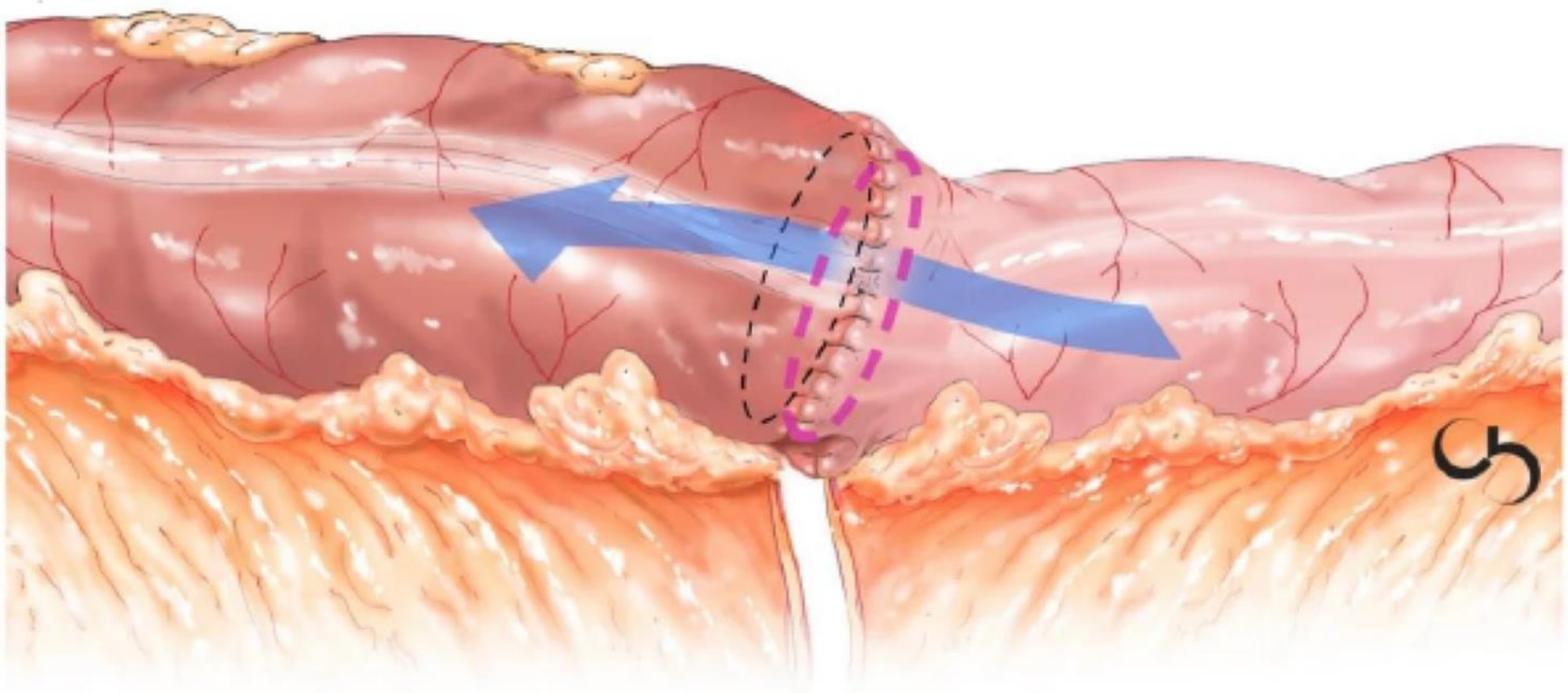


A. *Side-to-side Isoperistaltic ileocolic anastomosis*

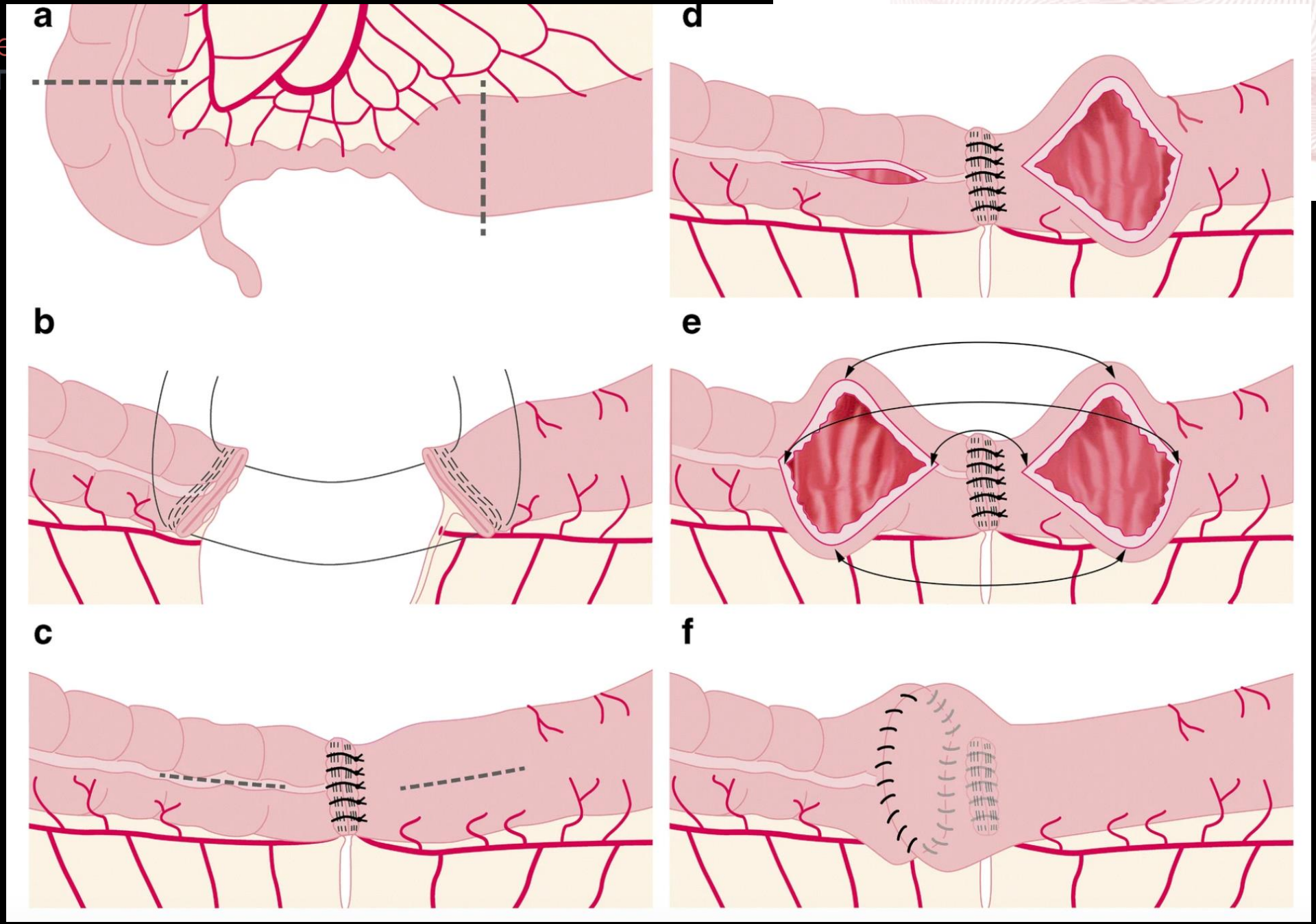
Beslenghi et al. Archives of Surgery 2023;75:1607



B. *Side-to-side antiperistaltic ileocolic anastomosis*



C. *End-to-end ileocolic anastomosis*



Kono-S

Horisberger et al. Lagenbeck's Archives of Surgery 2021;406:1173

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Take-home messages

- ✓ Anatomy, anatomy, anatomy
- ✓ Reviewing prior imaging will help you FIND the anastomosis
- ✓ Break the anastomosis down into components where possible:
  - Colonic side (if there is one)
  - Ileal side/ blind side
  - Outlet
  - NTI (proximal small bowel)

Thank you