

Debate PRO: Perform a Primary Anastomosis During Resection for Acute Diverticulitis

By

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Perforated diverticulitis , is a growing global health concern, with its management traditionally involving non-restorative resections, which significantly impacts patients' quality of life.

(Tsuchiya A et al,2018)



The Hinchey classification grades the severity of acute colonic diverticulitis into four primary stages.

It was designed to categorize intraoperative findings of perforated diverticulitis to help surgeons decide between one-stage or multi-stage resections.



Edward John Hinchey (1934 to Present): Father of Modern Age of Acute Complicated Diverticulitis of the Colon

With the advent of modern CT scanning, the classification was expanded (Modified Hinchey / Wasvary classification) to grade disease severity prior to an operation.
(Bastiaan K et al, 2011)

Modified Hinchey Classification (CT-Based)

Stage 0: Mild clinical diverticulitis with wall thickening

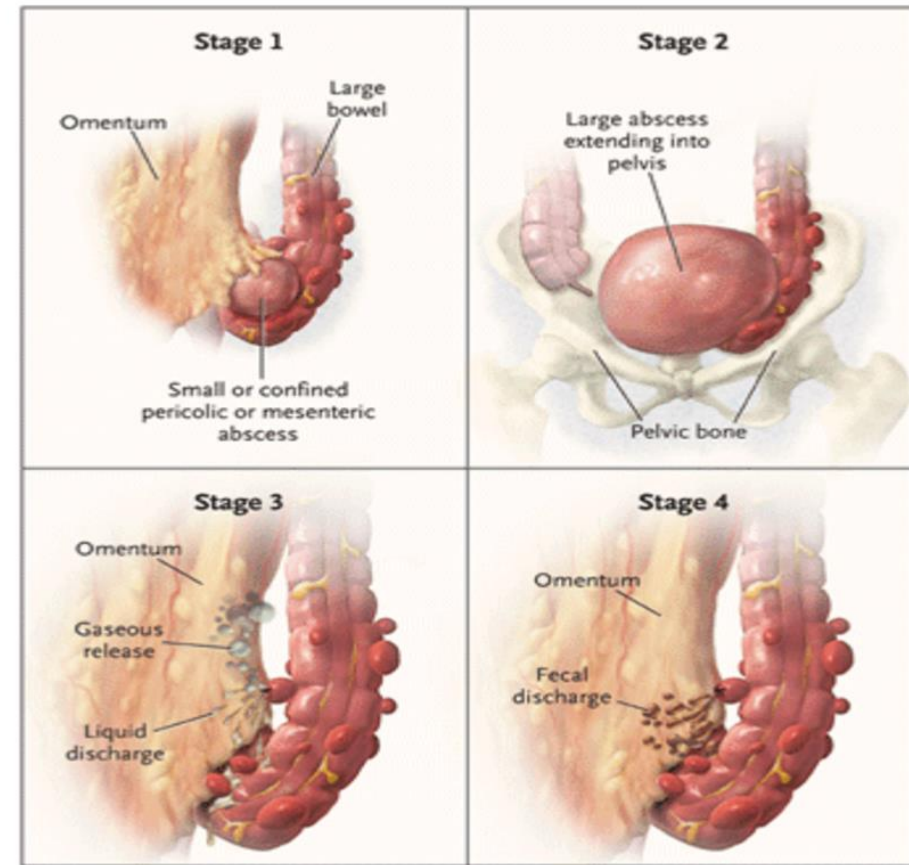
Stage Ia: Confined pericolic inflammation or phlegmon

Stage Ib: Confined pericolic or mesocolic abscess

Stage II: Deep pelvic, retroperitoneal, or distant abscess

Stage III: Purulent peritonitis

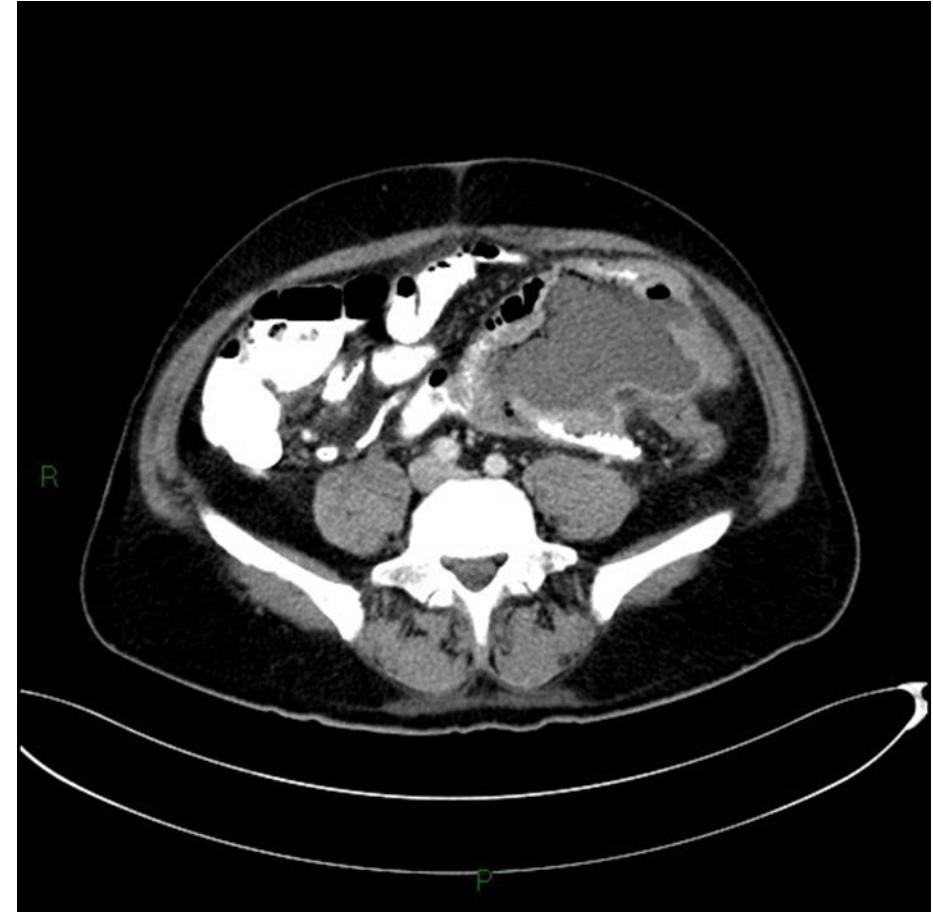
Stage IV: Fecal peritonitis



Perforated diverticulitis - stage III Modified Hinchey classification

*clinical: generalized purulent peritonitis

*CT finding: localized or generalized ascites, pneumoperitoneum, peritoneal thickening



Perforated diverticulitis - stage IV Modified Hinchey classification:



Historically, the standard operative approach has been the Hartmann's procedure, consisting of sigmoid resection, rectal stump closure, and end colostomy formation, thereby avoiding primary anastomosis.

(Bridoux V et al,2017)



However, restoration of intestinal continuity after Hartmann's procedure is associated with significant morbidity and mortality. A large proportion (30–60%) of patients never undergo a reversal procedure.

(Daniel L et al, 2019)



More recently, there has been a paradigm shift toward performing primary anastomosis with or without a covering ileostomy for these patients.

(Sentilnathan S et al,2026)



Hartmann's procedure versus sigmoidectomy with primary anastomosis for perforated diverticulitis with purulent or faecal peritonitis (LADIES): a multicentre, parallel-group, randomised, open-label, superiority trial

[Daniël P V Lambrichts, BSc](#)  ^{a,b}  · [Sandra Vennix, PhD](#) ^c · [Gijsbert D Musters, PhD](#) ^b · [Irene M Mulder, PhD](#) ^d · [Hilko A Swank, PhD](#) ^b · [Anton G M Hoofwijk, PhD](#) ^e · et al. [Show more](#)

Interpretation

In haemodynamically stable, immunocompetent patients younger than 85 years, primary anastomosis is preferable to Hartmann's procedure as a treatment for perforated diverticulitis (Hinchey III or Hinchey IV disease).



HARTMANN PROCEDURE OR RESECTION WITH PRIMARY ANASTOMOSIS FOR TREATMENT OF PERFORATED DIVERTICULITIS? SYSTEMATIC REVIEW AND META-ANALYSIS

Procedimento de Hartmann ou ressecção com anastomose primária para tratamento da diverticulite perfurada? Revisão sistematizada e metanálise

Rogério Perônico **BEZERRA**¹, Adriano Carneiro da **COSTA**¹, Fernando **SANTA-CRUZ**¹, Álvaro A. B. **FERRAZ**¹

CONCLUSION

Resection with primary anastomosis can be used as an alternative to the Hartmann procedure in patients undergoing urgent surgery for perforated diverticulitis, without increasing mortality, general morbidity and severe morbidity after the resection operation. It has advantages in ostomy reversal rates and in general and severe morbidity after this procedure.

Hartmann's procedure versus primary anastomosis for Hinchey stage III diverticulitis: a prospective case-control study[☆]



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Conclusion

In the present study, the patients with purulent perforated diverticulitis (Hinchey stage III) that underwent Hartmann's procedure had a greater probability of developing postoperative complications and a lower probability of restoring their intestinal transit, compared with the patients that had primary anastomosis (with or without protective loop ileostomy).



Perforated sigmoid diverticulitis: Hartmann's procedure or resection with primary anastomosis—a systematic review and meta-analysis of randomised control trials

Roberto Cirocchi¹ · Sorena Afshar² · Fadlo Shaban
Salomone Di Saverio⁵ · Justus Randolph⁶ · Mauro

Conclusions

PA and HP seem to be equivalent in terms of most outcomes of interest with a lower intra-abdominal abscess rate after the index procedure favouring PA. However, given the significant limitations of the included RCTs, these findings may not be applicable to all patients presenting with perforated sigmoid diverticulitis and generalised peritonitis. There is a need for well-designed and implemented RCTs with sufficient statistical power to address this question.

Colon/Rectum/Anus

Sigmoid resection and primary anastomosis for perforated diverticulitis with peritonitis: To divert or not to divert—A systematic review and meta-analysis

18310729 [José H. Dreifuss MD^{a b}](#), [Maria A. Casas MD^{a b}](#), [Cristian A. Angeramo MD^{a b}](#),

Conclusion

Sigmoid resection and primary anastomosis with or without proximal diversion have similar postoperative outcomes in selected patients with diverticulitis and diffuse peritonitis. However, further randomized controlled trials are needed to confirm these results.

doi: 10.1007/s00464-024-10752-8. Epub 2024 Apr 5.

Primary anastomosis with diverting loop ileostomy vs. Hartmann's procedure for acute diverticulitis: what happens after discharge? Results of a nationwide analysis

Arturo J Rios Diaz¹, Lisa A Bevilacqua¹, Theodore E Habarth-Morales², Alicja Zalewski¹, David Metcalfe³, Caitlyn Costanzo¹, Charles J Yeo¹, Francesco Palazzo⁴

Conclusion: Patients who undergo primary anastomosis for acute diverticulitis are more likely to undergo ostomy reversal and experience fewer postoperative complications upon stoma reversal. These data support the current national guidelines that recommend primary anastomosis in appropriate cases of acute diverticulitis requiring operative treatment.

► Clin Colon Rectal Surg. 2022 Oct 18;36(1):57–62. doi: [10.1055/s-0042-1756511](https://doi.org/10.1055/s-0042-1756511) 

Anastomotic Considerations in Diverticulitis

[Shannon L McChesney](#)¹, [Alexander T Hawkins](#)¹, 

Preparation of the Proximal Colon:

The proximal point of resection need not be motivated by removal of all diverticula-containing colon. However, it is important to ensure that no diverticula are contained within the anastomosis, as this may increase the incidence of anastomotic leak.

► Clin Colon Rectal Surg. 2022 Oct 18;36(1):57–62. doi: [10.1055/s-0042-1756511](https://doi.org/10.1055/s-0042-1756511) 

Anastomotic Considerations in Diverticulitis

[Shannon L McChesney](#)¹, [Alexander T Hawkins](#)¹, 

The distal resection margin should be at healthy rectum, as anastomosis to the distal sigmoid is associated with higher risk of recurrent diverticulitis. Endoscopic evaluation can be useful to ensure that there are no diverticula distal to the rectal resection margin.

► Clin Colon Rectal Surg. 2022 Oct 18;36(1):57–62. doi: [10.1055/s-0042-1756511](https://doi.org/10.1055/s-0042-1756511) 

Anastomotic Considerations in Diverticulitis

[Shannon L McChesney](#)¹, [Alexander T Hawkins](#)¹, 

It is wise to continue dissection of the rectum beyond the anterior peritoneal reflection to arrive at healthy, uninflamed rectum. To allow reach deeper into the pelvis, the splenic flexure may be fully mobilized to allow tension-free anastomosis.



REVIEW

Open Access

2020 update of the WSES guidelines for the management of acute colonic diverticulitis in the emergency setting



Should damage control surgery with staged laparotomies be recommended in patients with acute peritonitis due to diverticular perforation?

This strategy facilitates both the control of the severe sepsis as well as potentially improving the rate of primary anastomosis.

The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Treatment of Left-Sided Colonic Diverticulitis

Jason Hall¹, Karin Hardiman², Sang Lee³, Amy Lightner⁴, Luca Stocchi⁵, Ian M. Paquette⁶,
Scott R. Steele⁴, Daniel L. Feingold⁷,

Prepared on behalf of the Clinical Practice Guidelines Committee of the American Society of Colon and Rectal Surgeons

[Authors and Affiliations](#) >

Diseases of the Colon & Rectum 63(6):p 728-747, June 2020. | DOI:

2. Following resection, the decision to restore bowel continuity should incorporate patient factors, intraoperative factors, and surgeon preference. Grade of Recommendation: Strong recommendation based on moderate-quality evidence, 1B.

European Society of Coloproctology: guidelines for the management of diverticular disease of the colon

[J. K. Schultz](#) , [N. Azhar](#), [G. A. Binda](#), [G. Barbara](#), [S. Biondo](#), [M. A. Boermeester](#), [A. Chabok](#), [E. C. J. Consten](#), [S. T. van Dijk](#), [A. Johanssen](#), [W. Kruis](#), [D. Lambrichts](#), [S. Post](#), [F. Ris](#) ... [See all authors](#)

First published: 07 July 2020 | <https://doi.org/10.1111/codi.15140> | [VIEW METRICS](#)

Statement

4.4.1 Primary anastomosis with or without diverting ileostomy can be performed in haemodynamically stable and immunocompetent patients with Hinchey III or IV diverticulitis.

Evidence level 2, Conditional recommendation. Consensus 97% (second voting)



Conclusion

Primary anastomosis is best suited for stable patients without severe generalized fecal contamination, severe shock, severe malnutrition, or severe immunocompromise.

Primary anastomosis eliminates the need for a second major reversal operation, shortens operative times, reduces hospital readmissions and improves short and long-term quality of life by avoiding a permanent stoma.

Primary anastomosis carries a potential risk of anastomotic leakage if misapplied in unstable or heavily contaminated surgical fields, mandating careful intraoperative judgment.



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