



NCCN Guidelines Version 2.2018

Rectal Cancer

completeness.²⁴³ No significant differences were observed between the arms in these 3 measures or in the composite of successful resection. For example, complete or nearly complete TME was achieved in 92.1% (95% CI, 88.7–95.5) in the laparoscopic resection arm and 95.1% (95% CI, 92.2–97.9) in the open resection arm, for a difference of –3.0 (95% CI, –7.4–1.5; $P = .20$). However, the criteria for non-inferiority of the laparoscopic approach were not met. In ALaCaRT, the primary endpoint was also a composite of resection quality measures.²⁴⁴ Successful resections were achieved in 82% of the laparoscopic resection arm and 89% of the open resection arm, for a difference of –7.0% (95% CI, –12.4% to infinity). A negative CRM was achieved in 93% and 97%, respectively (risk difference, –3.7%; 95% CI, –7.6%–0.1%; $P = .06$). As in Z6051, the criteria for non-inferiority of the laparoscopic approach were not met in ALaCaRT. Longer follow-up with oncologic outcomes of these trials are needed.

An analysis of results from >18,000 individuals in the NSDB undergoing LAR for rectal cancer found short-term oncologic outcomes to be similar between the open and laparoscopic approaches.²⁵¹ **In addition, older reviews and meta-analyses consistently found the laparoscopic approach to be safe and feasible,**^{242,252–265} even though a meta-analysis published in 2017 found that the risk for a non-complete mesorectal excision is significantly higher in patients receiving a laparoscopic resection compared with those receiving an open resection.²⁶⁶

Several studies have also compared outcomes of robotic-assisted resection to conventional laparoscopic resection.^{267–271} Comparable results are generally seen between the approaches in conversion to open resection, TME quality, postoperative complications, and quality of life.

In conclusion, some studies have shown that laparoscopy is associated with similar short- and long-term outcomes when compared to open surgery,^{241,242} whereas other studies have shown the laparoscopic approach to be associated with higher rates of CRM positivity and incomplete TME.^{243,244} The panel defined principles by which minimally invasive resection of rectal cancer can be considered: the procedure can be considered by an experienced surgeon, should include thorough abdominal exploration, and should be limited to lower-risk tumors, as outlined in the guidelines. An international group of experts has defined standards for the technical details of laparoscopic TME.²⁷²

Neoadjuvant and Adjuvant Therapy for Resectable Nonmetastatic Disease

Neoadjuvant/adjuvant therapy of stage II (T3–4, node-negative disease with tumor penetration through the muscle wall) or stage III (node-positive disease without distant metastasis) rectal cancer usually includes locoregional treatment due to the relatively high risk of locoregional recurrence. This risk is associated with the close proximity of the rectum to pelvic structures and organs, the absence of a serosa surrounding the rectum, and technical difficulties associated with obtaining wide surgical margins at resection. In contrast, adjuvant treatment of colon cancer is more focused on preventing distant metastases since this disease is characterized by lower rates of local recurrence.

Although radiation therapy (RT) has been associated with decreased rates of local recurrence of rectal cancer, it is also associated with increased toxicity (eg, radiation-induced injury, hematologic toxicities) relative to surgery alone.^{132,273,274} It has been suggested that some patients with disease at lower risk of local recurrence (eg, proximal rectal cancer staged as T3, N0, M0, characterized by clear margins and favorable prognostic features) may be adequately treated with surgery



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Rectal Cancer

[NCCN Guidelines Index](#)
[Table of Contents](#)
[Discussion](#)

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