Enhanced Recovery After Robotic Radical Prostatectomy (RALP): Optimizing Outcomes Through Protocol-Driven Surgical Care

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Abstract:

Background: Robot-assisted laparoscopic prostatectomy (RALP) is the dominant modality for managing localized prostate cancer, offering well-established benefits including reduced intraoperative blood loss, shorter hospitalization, and faster return to baseline function. Enhanced Recovery After Surgery (ERAS) protocols—through multimodal, evidence-based perioperative optimization—further augment these outcomes. This review examines the intersection of ERAS principles with robotic prostatectomy and their cumulative impact on recovery, safety, and resource utilization.

Methods: A literature search was conducted across PubMed and Embase (2015–2024), targeting studies evaluating ERAS protocol implementation in RALP. Included designs ranged from randomized controlled trials to prospective cohorts and meta-analyses. Extracted outcomes included length of stay (LOS), postoperative pain scores, opioid requirement, time to ambulation, complication incidence, and early functional recovery.

Findings: Published evidence consistently demonstrates that ERAS protocols enhance recovery outcomes following RALP. Most studies report reduced hospital stays—often within 24 hours—without compromising safety, readmission rates, or complication profiles. Patients experience improved pain control, reduced opioid use, and better tolerance of early mobilization and oral intake. Robotic advantages—such as minimal tissue trauma, enhanced visualization, and precise nerve-sparing techniques—support earlier return to continence and lower perioperative morbidity.