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## Robotic Lateral Pelvic Lymph Node Dissection after Neoadjuvant Chemoradiation: View from the West

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### Keywords

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Neoadjuvant Chemoradiation (nCRT) and Total Mesorectal Excision (TME) is the current standard treatment for locally advanced rectal cancer in Western countries. However, lateral pelvic lymph node (LPN) metastasis, beyond the TME plane, has increasingly become an important clinical problem.<sup>1</sup> To solve this problem, Japanese surgeons have routinely performed lateral pelvic lymph node dissection (LPLND) and TME for low rectal cancer. In contrast, Western surgeons have not adopted this strategy due to a concern regarding technical difficulty and morbidity, especially in the more obese Western population.

Recent data suggests that patients with clinically positive LPN have a high risk of treatment failure with TME plus either nCRT or LPLND.<sup>2, 3</sup> In particular, the surgical management of residual macroscopically enlarged LPN after nCRT is an important issue that remains unaddressed in Western series. In our institution, for patients with clinically involved LPLN, we utilize the combined strategy of nCRT and LPLND.<sup>4, 5</sup>

This video demonstrates the technique of robotic-assisted LPLND in a 38 year-old Western rectal cancer patient with the BMI = 29kg/m<sup>2</sup>. For clarification, we annotated the video with schematic anatomical descriptions. The dissection is performed along the embryological planes of the lateral compartment. The important anatomical landmarks are identified and the pelvic autonomic nerves are preserved. Meanwhile, all the nodal tissue within these following boundary structures are removed in an *en bloc* fashion:

1. Proximally - external/ internal iliac artery bifurcation
2. Distally - obturator foramen and Alcock's canal
3. Laterally - external iliac vessels and the obturator internus
4. Medially - uretero-hypogastric fascia

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## 5. Inferiorly - sacral nerve roots, and piriformis muscle

The patient had an uncomplicated postoperative course without voiding or sexual dysfunction. The final pathology revealed ypT3 ypN1 moderately differentiated adenocarcinoma. Metastatic carcinoma was seen in 1 out of 5 lateral lymph nodes. After 2-year of follow-up, there is no evidence of either local or distant recurrent disease.

In conclusion, minimally invasive robotic LPLND is feasible in Western patients with persistent LPN enlargement after nCRT as a part of curative multidisciplinary treatment for rectal cancer. The benefits and indications of LPLND in this group of Western patients with clinically positive LPN should be re-evaluated.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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