

# **The anterior layer of Denonvilliers' fascia: a common misconception in the laparoscopic prostatectomy literature.**

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**PURPOSE:** Incision of the anterior layer of Denonvilliers' fascia is commonly cited as a key step in successful dissection of the vasa deferentia and seminal vesicles from the posterior bladder neck during laparoscopic radical prostatectomy. However, anatomical descriptions do not support the presence of Denonvilliers' fascia anterior to the seminal vesicles. To address this inconsistency we performed a detailed anatomical study of tissue planes encountered during laparoscopic dissection of the posterior bladder neck.

**MATERIALS AND METHODS:** To grossly characterize the tissue planes encountered during laparoscopic posterior bladder neck dissection, ex vivo dissections were performed on 4 separate cystoprostatectomy specimens. Biopsies of the representative areas were obtained from 20 consecutive laparoscopic radical prostatectomy specimens by 2 dedicated uropathologists. **RESULTS:** Following incision into the posterior bladder neck mucosa, longitudinally oriented fibers were readily visualized, extending from bladder neck to prostate base. Histologically this anatomical landmark represents the fusion of 2 separate tissue layers, that is an inner lamella composed of longitudinally disposed smooth muscle fibers in continuation with the longitudinal fascia of the bladder detrusor (medial fascicle of the detrusor running in between the ureters) and an outer lamella composed of fibroadipose tissue in continuation with the bladder adventitia. **CONCLUSIONS:** Our anatomical and histological analysis refutes the prevailing belief in the laparoscopic literature that the longitudinal muscle fibers identified during dissection of the posterior bladder neck represent the anterior layer of Denonvilliers' fascia. They correspond to the posterior longitudinal fascia of the detrusor muscle that is externally upholstered by the bladder adventitia.