

# Editorial on “Erectile function and oncologic outcomes following open retropubic and robot-assisted radical prostatectomy: results from the LAParoscopic Prostatectomy Robot Open Trial”

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In this latest report from the LAPPRO study, the authors focus on two potentially competing outcomes, namely neurovascular bundle preservation together with its associated preservation rate of erectile function and positive surgical margin (PSM) rate. Firstly, the authors are to be congratulated for completing and presenting the large dataset, encompassing close follow-up data on over 2,500 patients, two thirds of whom were potent preoperatively. The completed dataset and measured endpoints at 2 years out from recruitment tops a remarkable 90%, itself a testament and a credit to the study organizers.

In an era where the robotic assisted approach is rapidly replacing the open retropubic as the surgical approach of choice for prostatectomy, this large non-randomized study attempts to somewhat bridge the gap in the literature in establishing comparative outcomes for each approach.

In an attempt to overcome surgeon and the learning curve bias, data is included from relatively experienced surgeons (50 surgeons across 14 centres), all of whom had completed at least 100 procedures at the commencement of the study. However, no further details regarding quality/level of surgical training is given.

As randomization between operative approaches would have unlikely achieved the necessary volume, the study design uses geographical location of residence as the randomization mechanism. However, there was no verification process to confirm that any given patient had actually the surgical approach assigned to them.

The headline figures contained in the abstract informs us that the positive margin rate for organ-confined disease was nearly twice the rate for RaRP compared to open (17% *vs.* 10%). Though we are given no further details regarding the pathology, a 17% PSM rate is comparatively high when compared to published series (1). Further information on location, focality and length of reported PSM would be particularly useful to know as it is established that some positive margins have a minimal negative impact on oncological control (2). In addition, given that open and robotic surgeries took place in different institutions, the pathological reporting of postoperative specimens from individual institutions may have also contributed to the differences seen. In relation to the other defined endpoint relating to oncological control, biochemical recurrence (BCR) and a definition of 0.2ng/ml, the follow up time is simply too short to allow a meaningful comparison be made between the two groups.

Assessment of postoperative erectile function in those potent pre-operatively was obtained by asking two subjective questions about *Penile Stiffness* and *Morning Erections*. While the authors point out that these two questions have previously being used in other important studies such as the SPCG-4 clinical trial (3), perhaps more objectionable and reliable data could have been obtained with the use of validated questionnaires such as the Sexual Health Inventory for Men (SHIM) or the Expanded Prostate Cancer Index Composite-SF (EPIC-SF) questionnaire. At 3 months post

operatively, assessment of erectile function recovery may be premature. By virtue of having a minimally invasive surgery with the advantage of having a faster postoperative recovery this may contribute to differences seen. Other factors such as neuropraxia resulting from nerve traction can take up to 12 months to recover and so was interesting to see the difference between the open and robot groups close with the passage of time.

It was interesting to note the greater correlation between the surgeon's interpretation (self-reported) in the degree of nerve sparing performed and the corresponding recovery in erectile function within the robot arm of the study. Presumably this correlation is due to both the enhanced view and reduced blood loss associated with robot-assisted surgery. Surprisingly the erectile function preservation rate in the higher risk cohort (presumably requiring wider resection) was similar if not better compared to the lower risk cohort within the open prostatectomy arm of the study. A significant upgrading from biopsy results compared to the radical prostatectomy specimen may partly account for this though further information is not provided.

In addition, what is not addressed in this (and many other studies) is the percentage of patients, whom based on their pre-operative disease and potency parameters would be suitable to have nerve sparing surgery (NSS) versus those that actually had NSS performed. This is a potential issue particularly at open prostatectomy where bleeding can be less predictable making precise NSS more challenging to perform. Further information regarding this parameter

would be also useful in counselling patients pre-operatively.

In summary, there is a lot of interesting data generated by this study. However, the study design makes comparisons between operative approaches challenging. Based on the established benefits of minimally invasive prostatectomy this study is unlikely to change the global trend towards the wide uptake of this technique.

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None.

## Footnote

*Conflicts of Interest:* The author has no conflicts of interest to declare.

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