



# Reservoir Placement Considerations For 3-Piece Inflatable Penile Prosthesis Surgery in Post-Robotically Assisted Laparoscopic Radical Prostatectomy

Hossein Sadeghi-Nejad\*, Daniel Brison, Ricardo Munarriz, Gerard D. Henry, and Craig F Donatucci  
 Hackensack University Medical Center – Hackensack, NJ; University of Medicine and Dentistry of New Jersey – Newark, NJ;  
 Boston University, Boston, MA; Regional Urology - Shreveport, LA; and Duke University Medical Centers - Durham, N.C.



## Introduction and Objective

Robotically assisted laparoscopic radical prostatectomy (RALP) provides faster recovery, but has not significantly changed the incidence of erectile dysfunction and many patients require an inflatable penile prosthesis (IPP). The aim of this paper is to highlight anatomical changes after RALP and to make suggestions for safer reservoir placement.

## Methods

A 68 year-old patient with severe ED following RALP underwent a 3-piece IPP insertion and laparoscopic abdominal hernia repair. Laparoscopy revealed an intraperitoneal reservoir overlying the sigmoid colon with multiple diverticula. The reservoir was repositioned in the dependent pelvis away from the diverticula and the pelvic vessels. We also report two post-RALP IPP cases with unexpected bladder findings: a case of reservoir tubing near erosion into the bladder and a case of complete reservoir erosion into the bladder 6 months after IPP (14 months post RALP).

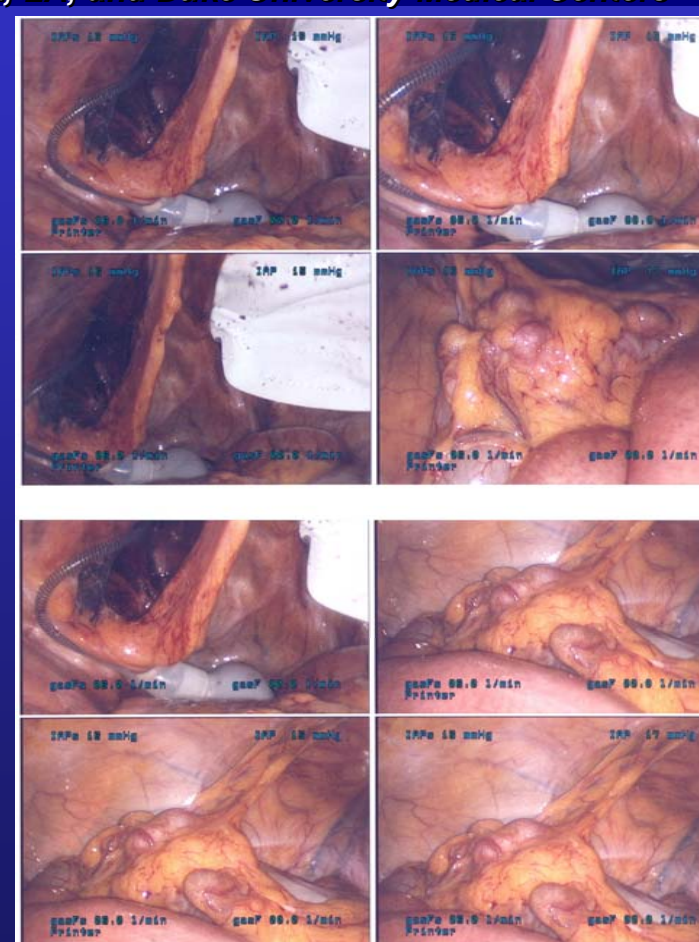
## Results

The patient with repositioning of the intraperitoneal reservoir had an uneventful postoperative course without any complications (12 month follow up). The cases involving the bladder were managed with surgical revision and have functioning prostheses without related adverse events.

Pelvic CT:  
with no  
contrast



CT scan  
with  
contrast



Laparoscopic view of the reservoir in the abdominal cavity

[Last images are of the sigmoid colon diverticula after reservoir repositioning]

## Conclusion

The altered anatomy of the space of Retzius following RALP will likely result in more cases of intraperitoneal reservoir placement. Intraperitoneal reservoir placement has been practiced in many European countries without significant sequelae. In rare cases, intra-abdominal placement of reservoirs may result in bowel injury due to adhesions to the pubic bone or development of perireservoir hernias, which could cause an acute abdomen. Continuous direct contact of the reservoir with diverticular disease may *theoretically* elicit an inflammatory response and lead to overt diverticulitis or infection. Mobilization of the bladder during RALP results in a more dependent position in the pelvis with the reservoir sitting *on top* of the bladder. Altered vascular supply may also increase susceptibility to erosion. We suggest direct visualization during ectopic reservoir placement on the right side whenever possible (a counter incision for transscrotal cases or an infrapubic approach with care to avoid nerve injury). If none of these options are available, alternative implants (semirigid or two-piece inflatable) may be considered. These findings renew interest in “flat” reservoirs that bypass the need for pelvic placement.