Objective: Post-prostatectomy urinary incontinence impairs quality of life, motivating techniques to enhance recovery of urinary control. While bladder neck intussusception during open radical prostatectomy demonstrated mixed outcomes, its application to pure or robotic-assisted laparoscopic prostatectomy (RALP) has not been described. Accordingly, we sought to assess whether bladder neck intussusception improves early urinary control using a prospective, parallel study design.

Methods: From August 2013 – April 2014, we performed 48 consecutive robotic-assisted laparoscopic prostatectomies, alternating between intussusception vs. non-intussusception. Prior to study initiation, ten procedures were performed with video-based coaching by Patrick Walsh to overcome learning curve effects. Intussusception was adapted from its initial description in open surgery and completed using 3-0 polyglycolic acid horizontal mattress sutures anterior and posterior to the bladder neck (video). In contrast to the open technique, in which intussusception sutures were placed prior to anastomosis, we placed the posterior and anterior suture before and after the anastomoses, respectively. We compared baseline characteristics, surgical outcomes, and urinary function (from the urinary domain of the Expanded Prostate Cancer Index – Short Form scored from 0-100) 2-days, 2-weeks, and 2-months postoperatively using student t-tests and Fisher’s exact test as appropriate.

Results: Of 48 men, 24 men underwent bladder neck intussusception and 24 men served as controls. Intussusception and control groups were similar in age (59.7 vs. 62.6 years, p=0.17) and body mass index (27.3 vs. 29.5 kg/m², p=0.10) as well as comorbidity status, race, and D’Amico risk classification (all p>0.10). Operative time (162.3 vs. 159.7 min, p=0.75), estimated blood loss (179.2 vs. 192.9 ml, p=0.45), performance of full, bilateral nerve-sparing (79.2 vs. 70.8%, p=0.74), positive margins (16.7 vs. 20.8%, p=1.00), and presence of pT3 disease (58.3 vs. 45.8%, p=0.56) remained similar for both groups. Initially similar at day 2, patients undergoing bladder neck intussusception had better urinary function overall at 2-weeks (64.4 vs. 47.5, p=0.02) with a greater proportion achieving no leakage, zero pad use, or total control (62.5 vs. 20.8%, p=0.01). However, urinary function EPIC-SF scores converged at 2-months between treatment groups (75.3 vs. 72.8, p=0.78).

Conclusions: Bladder neck intussusception during robotic-assisted laparoscopic prostatectomy improves the recovery of short-term urinary function, reducing the burden of urinary impairment postoperatively.
**Introduction and Objectives:** RALP is associated with an approximately 7-27% positive surgical margin rate (PSM) and higher in patients with high risk disease[1]. PSM is an independent predictor of biochemical recurrence, necessitating escalating treatment with radiation and/or androgen deprivation therapy. Wide local excision (WLE) in radical retropubic prostatectomy has previously been described with a PSM rate of 13%[2]. We present our approach for WLE in RALP.

**Method:** In patients with locally extensive, high risk prostate cancer we perform a RALP with WLE. The key steps in the wide local excision are highlighted in our video. We initially perform dissect posterior to the prostate along the longitudinal fibers of the rectum and extend this laterally though the endopelvic fascia. Denonvilliers’ fascia and abundant periprostatic tissue is left adherent to the prostate. A large bladder neck resection and reconstruction is performed. The prostatic pedicles including the neurovascular bundles are divided leaving significant periprostatic tissue surrounding the prostate.

**Results:**
The technique is reproducible with no increased risks of complications, specifically with no increased risk of rectal injuries. Preliminary results of this technique also suggest a lower rate of PSM.

**Conclusion:**
We have presented a modified RALP with wide local excision resulting in the removal of all periprostatic tissue with the aim of reproducing open techniques in attempts to minimize positive surgical margins in patients with high-risk, locally advanced prostate cancer.

ROBOTIC PROSTATECTOMY IN PATIENTS WITH INFLATABLE PENILE PROSTHESIS: TECHNIQUE FOR INTRAOPERATIVE MANAGEMENT OF THE PROSTHESIS RESERVOIR

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Introduction and Objectives: Previous pelvic surgery can complicate performance of robotic-assisted radical prostatectomy (RALP). Prior placement of a three-piece inflatable penile prosthesis (IPP) with a perivesical pelvic reservoir can inhibit access to the prostate, often requiring mobilization or complete removal of the reservoir during RALP. This mobilization risks injury to the reservoir and may increase the risk of IPP infection. We demonstrate our technique for reservoir mobilization and careful displacement to limit reservoir injury and improve access to the pelvis during RALP.

Methods: The video demonstrates our technique for management of a penile prosthesis reservoir in a 74 year old man undergoing RALP for clinically localized prostate cancer. He had had prior placement of an AMS 700 IPP with placement of the IPP reservoir in a prevesical location. The reservoir was initially left full for easy identification, and attachments to the anterior abdominal wall were preserved. The capsule around the reservoir was opened easily with electrocautery, allowing mobilization. Once free of the fibrous capsule, the IPP was inflated to empty the reservoir creating more perivesical space and improved visualization of the pelvis. The reservoir was excluded from the pelvis, limiting the risk of injury by robotic instruments, by temporary suspension using a hemostatic gauze hammock. After completion of RALP in standard fashion, the prosthesis reservoir was replaced into a preperitoneal location by reapproximation of the anterior peritoneal incision used to access the pelvis. The IPP was cycled under direct vision and the IPP was deflated (reservoir full) to prevent contraction and scarring of the space around the reservoir.

Results: There were no complications and no injury to the prosthesis reservoir. It was recommended that the IPP not be used or cycled for 4 weeks after RALP. The IPP remained fully functional postoperatively.

Conclusions: RALP can be safely performed in patients with a previously placed three-piece IPP, without complete removal and later replacement of the reservoir. Careful mobilization and handling of the reservoir is critical to prevent injury and potential colonization or infection. We believe it is important, if possible, to exclude the reservoir from direct connection with the peritoneal cavity by replacement into a pre-peritoneal space after completion of RALP.

Source of Funding: None
ROBOTIC ASSISTED LAPAROSCOPIC RADICAL CYSTOPROSTATECTOMY WITH EXTENDED PELVIC LYMPH NODE DISSECTION AND HYBRID INTRA/EXTRACORPORAL ORTHOTOPIC ILEAL NEOBLADDER FOR LOCALLY ADVANCED BLADDER CARCINOMA

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(Presentation to be made by Dr. Zhumkhawala)

Objectives: Radical Cystoprostatectomy carries a high peri-operative morbidity. Robotic assisted approaches have been previously shown to be technically feasible with lower blood loss. Locally advanced disease presents a challenge to both the open and robotic surgeon. While robotic surgery may yield improved operative visibility, the loss of tactile feedback can make pelvic surgery more difficult in the patient with locally advanced disease. The objective of this video is to demonstrate the feasibility of robotic cystoprostatectomy for pT4 bladder cancer with adequate lymphadenectomy as well as to demonstrate a hybrid intra/extracorporeal approach to reconstruction.

Methods: The patient presented with hematuria at an outside hospital 4 months prior and was initially treated with incomplete trans-urethral resection with pathology showing squamous cell carcinoma of the urinary bladder. On presentation to our hospital, the patient was found to have severe malnutrition, anemia, para-neoplastic hypercalcemia and bilateral hydronephrosis with acute renal failure. He was transfused packed red blood cells and percutaneous nephrostomy tubes were placed with improvement in his renal failure and stabilization of his hemoglobin. A repeat trans-urethral resection confirmed squamous cell carcinoma of the bladder obliterating the bladder lumen. Examination under anesthesia revealed a clinical T3 staging. After discussion of his treatment options, the patient elected for the above procedure. Patient positioning and port placement were according to the standard City of Hope template. An extended bilateral pelvic lymph node dissection was performed with the proximal limit being the inferior mesenteric artery takeoff from the aorta. Urethral and ureteral frozen section margins were negative for carcinoma. The specimen was extracted through a midline incision which was used to create an ileal neobladder pouch in Studer described fashion extracorporally. The pouch was re-introduced into the abdomen and the urethro-enteric and uretero-enteric anastomoses completed robotically. Ureteral stents as well as a blake drain were brought out the abdomen through port sites. A foley catheter was left in place for 3 weeks to drain the neobladder.

Results: There were no intra-operative complications. Total operative time was 7 hrs, 50 min which included bronchoscopy performed for an infectious lung lesion. Estimated blood loss was 250 mL. The patient was discharged to a skilled nursing facility on post-operative day 5. His post-operative course was complicated by anemia requiring packed red blood cell transfusions consistent with a Clavien-Dindo grade II complication. He had a neocystogram approximately 3 weeks post-operatively with no evidence of urinary extravasation. At 2 months post-operatively, he was confirmed to empty his neobladder adequately. He was noted to be continent during the day with a mild amount of nocturnal enuresis. His final pathology demonstrated poorly differentiated squamous cell carcinoma as well as adenocarcinoma of the urinary bladder, 9 cm in greatest dimension, with microscopic invasion of the prostatic stroma, 0/50 nodes positive, pT4aN0. Surgical margins were clear of malignancy. The patient has not yet had repeat cross-sectional imaging to assess for recurrence.

Conclusions: Robotic assisted laparoscopic radical cystoprostatectomy with bilateral extended pelvic lymph node dissection and orthotopic ileal neobladder is technically feasible with locally advanced disease. Adequate lymph node yields are attainable and laparoscopic visualization can lead to negative surgical margins in the pT4 patient. A larger series of patients is needed to assess functional outcomes of the hybrid intra/extracorporeal approach.

Source of Funding: None
**BLUE LIGHT CYSTOSCOPY: INITIAL USC EXPERIENCE**  
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(Presentation to be made by Mehrdad Alemozaffar, M.D.)

**Introduction:** Intravesical administration of hexaminolevulinic acid has been shown to improve the detection of non-muscle invasive bladder (NMIBC) during cystoscopy when viewed under blue light. The product has been available in Europe for several years (Hexvix) and has recently been approved in the US (Cysview) and is being used by select centers. In the video we demonstrate use of Cysview for detection of NMIBC.

**Methods:** Since August 2012, >100 patients scheduled for TURBT at our institution have undergone instillation of Cysview and cystoscopy under blue light. Several cases are highlighted in the video demonstrating cystoscopic view under normal and blue light with pathology results.

**Results:** Use of Cysview to help improve diagnosis of NMIBC and in management of more complicated cases is demonstrated in the video. This includes cases of patients with persistently positive cytology but no visible lesions on white light cystoscopy, patients with recurrent disease, patients presenting for repeat TURBT after finding of NMIBC, and recurrent CIS.

**Conclusions:** Use of Cysview can help with the detection of NMIBC as well as CIS in patients undergoing TURBT for bladder cancer.
Objectives: Ureterointestinal strictures occur in approximately 3-6% of cystectomy patients. Endourologic management approaches have a high failure rate, and open surgery can present significant morbidity. Reports of robotic repairs of these strictures are rare and limited to ileal conduits. Therefore, the objective of this video is to demonstrate a technique for the robotic reimplantation of a ureter into a neobladder.

Methods: Two patients have undergone this operation at our institution, although the video from one representative case is shown. The patient in this video had an open cystectomy 13 years prior to presentation for flank pain and pyelonephritis. Workup revealed a left ureterointestinal stricture. The patient was counseled about his treatment options and elected for robotic repair. The positioning and port placement were similar to a robotic cystectomy, although the ports were placed several centimeters higher on the abdomen. Adhesiolysis was performed laparoscopically and robotically.

Results: The ureter was successfully reimplanted robotically. There were no intraoperative or postoperative complications. Operative time was 4 hours, 12 minutes. Estimated blood loss was 50mL. Intraoperative frozen sections were negative but the final pathology demonstrated a small focus of CIS with negative margins. Postoperative cystogram following stent removal demonstrated free reflux of contrast indicating a wide open anastomosis. The patient has stable renal function and no evidence of progressive hydronephrosis with 6 months of follow up.

Conclusions: Robotic ureteral reimplantation of ureterointestinal strictures is technically feasible. Additional cases are necessary to estimate outcomes and compare with the open approach.
Purpose: Partial nephrectomy has come to be considered the standard of care treatment for small, T1 renal tumors in patients considered to be candidates for nephron-sparing surgery. Robotic-assisted laparoscopic surgery has contributed significantly to the rise in partial nephrectomy. Up to now, however, only open partial nephrectomy has been described on patients with transplanted kidneys. Here was aim to show the technical steps to perform robotic-assisted laparoscopic partial transplant nephrectomy as well as the oncologic and post-operative outcomes in our first three cases.

Materials and Methods: Three consecutive patients were consented for robotic partial nephrectomy of their transplanted kidney. Data were collected prospectively and entered into an institutional review board-approved database. Inclusion criteria were a history of transplanted or autotransplanted kidney and a single, clinical T1 tumor deemed to be resectable with partial nephrectomy. These included two patients with a transplanted kidney for ESRD and one patient with an autotransplanted kidney for retroperitoneal fibrosis. No patients were excluded. Five or six laparoscopic or robotic ports are inserted transperitoneally around the renal area. Any interfering adhesions are lysed and the kidney is identified. Gerota’s fascia is dissected away from the abdominal wall, exposing the renal cortex. Laparoscopic ultrasound is then utilized to identify the tumor and score the proposed resection margin. Gerota’s fascia is again dissected away from the hilar vessels, allowing exposure of the artery and vein should clamping be necessary. Tumor excision is begun with monopolar scissors through the full-thickness renal cortex into the medulla and sinus fat, carefully coagulating any areas of bleeding. Only one case required hilar clamping at this point due to bleeding. Once the tumor is completely excised parenchymal reconstruction is performed. Biologic hemostatic agents and Surgicel are applied to the resection bed and the specimen is retrieved. The procedure is then terminated.

Results: Robotic transplant partial nephrectomy was successful in all cases, none requiring conversion to open surgery. Mean tumor size was 1.9 cm (range: 1 – 3.5 cm), with a mean operative time of 4.3 hr (range: 3.7 - 5.3 hr), and a mean estimated blood loss of 142 ml (range: 25 – 200 ml). Two patients had post-operative complications, one with acute renal failure treated conservatively (Clavien grade 1) and another with new onset atrial fibrillation treated pharmacologically (Clavien grade 2). Histopathological examination reveal renal cell carcinoma in all three patients, all with negative surgical margins. Because of the small size of two of the tumors, renal clamping was unnecessary.

Conclusions: Robotic transplant partial nephrectomy is feasible and oncologically effective.

Source of Funding: None
Objective: We present a surgical video of our technique in performing robotic partial nephrectomy in a patient with a horseshoe kidney.

Methods: Our patient was a 74 year old male who developed gross hematuria. As part of the work-up, her underwent a CT urogram that identified a 4 cm, almost entirely endophytic tumor in the lower pole of the left side of a horseshoe kidney. The blood supply to the horseshoe kidney included a main renal artery and vein in their normal orthotopic locations on the right and the left, and an additional artery to the isthmus coming directly off of the aorta.

Results: We placed the patient in the right lateral decubitus position and utilized a standard trocar arrangement for partial nephrectomy (3 robotic trocars, 2 12 mm assistant trocars, and a 12 mm camera trocar). We initiated our dissection by mobilizing the colon medially. We then identified the left ureter and gonadal vein where they crossed over the isthmus. The ureter was isolated and a penrose placed around it for retraction. We then traced the gonadal vein to its insertion in the left renal vein and dissected out vein and artery for later clamping. Next, we cleared the fat overlying the aorta in the region of the isthmus to identify the artery supplying it. After establishing vascular control, we mobilized the kidney within the perinephric fat. A major challenge related to the horseshoe kidney was the inability to rotate the left kidney medially. This hindered access to the lateral aspect of the tumor. Nonetheless, we did clear all the fat around the tumor and then performed intraoperative ultrasound to identify the tumor and mark its margins. We then placed 2 bulldog clamps on the main renal artery as well as the artery to the isthmus. At that point, we did resect the tumor, preserving a rim of normal renal parenchyma around it. This was more challenging then usual do to the relatively fixed nature of the kidney, but we were successful in resecting the mass with a grossly negative margin. We then oversewed the entire base with a 3-O V-lock suture. Renorrhaphy was then performed with a series of interrupted O vicryl sutures. Our total clamp time was approximately 21 minutes. Hemostatic agents were then applied. Final pathology revealed clear cell renal cell carcinoma measuring approximately 4.1 cm with negative margins.

Conclusions: Horseshoe kidneys present additional challenges in performing robotic partial nephrectomy. Although mobility is limited, successful resection is safe and feasible.
ROBOT ASSISTED REMOVAL OF A SYMPTOMATIC INFERIOR VENA CAVA FILTER: A FUSION OF ROBOTIC UROLOGY AND VASCULAR SURGERY
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(Presentation to be made by Dr. Schneider)

Introduction: Currently, urologic surgeons are the largest utilizers of robotic surgical platforms. At our institution the urology department routinely performs robot assisted retroperitoneal lymph node dissections and vena cava tumor thrombectomies. Between these operations and pelvic lymphadenectomy, we have developed a large experience with vascular dissection and manipulation. Given this experience, urologists are in a unique position to assist vascular surgeons with pathology involving the great vessels when a minimally invasive approach is desired. We present a case utilizing the robotic platform to aid in the removal of an eroded vena caval filter in a symptomatic young adult female.

Case: A 23 year old female with a history of an unprovoked left lower extremity DVT and left iliac vein stenosis. A retrievable IVC filter was placed in 2008. There were two unsuccessful percutaneous attempts to remove the filter and she was lost to follow up. She then developed nausea and intractable right upper quadrant pain. CT imaging demonstrated that multiple struts had penetrated through the vena cava with one tine suspicious for duodenal perforation with a surrounding hematoma. Given her age and the concern for duodenal involvement surgical removal was indicated.

Operative Description: The patient is placed in a right modified flank position and a total of seven ports are utilized, with a 5 mm liver retractor, two midline 12mm assistant ports and three 8mm robotic ports with camera port in between. The procedure is begun by mobilizing the ascending colon and meticulous dissection of the duodenum. A split and roll technique of the IVC is performed to mobilize proximally up to the short hepatic veins and distally to the bifurcation of the iliac veins. The lumbar veins and right gonadal were deliberately ligated with silk ties instead of clips to prevent any inadvertent back bleeding or clip malfunction. A 5mm laparoscopic Debakey clamp was placed through the subxiphoid port to occlude the vena cava cranially above the right renal vein and caudally a Rommel/vessel lope was placed near the bifurcation. The renal veins were dissected and controlled. The cavotomy was made and the filter was removed in its entirety from its epithelized capsule. Retrograde removal of the tines through the cava was facilitated by breaking the tines in half with the robotic needle drivers in order to avoid laceration from the barbs. The cavotomy was closed with 4-0 Prolene suture. Prior to complete closure the IVC was irrigated with heparinized saline and the vena cava was flushed with release of the clamps to prevent an air embolism and clot formation. The patient tolerated the procedure well with no intra or postoperative complications. The patient was discharged home in 2 days.

Conclusion: With the trend to more minimally invasive approaches to complex intraabdominal disease processes, collaboration between urology and other specialties may become more prevalent. This case represents a concerted effort between two surgical disciplines to treat a complex vascular problem in a minimally invasive fashion.
ROBOTIC ADRENALECTOMY FOR ADRENOCORTICAL CARCINOMA
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(Presentation to be made by Dr. Tobis)

Objective: Minimally invasive adrenalectomy has become the standard for the resection of small adrenal masses. However there is concern that this may be inappropriate in larger tumors with metastatic potential and local invasion. We describe our technique for Robotic Assisted Laparoscopic Adrenalectomy (RALA) in large adrenal tumors.

Material/Methods: 53 year old women with Stage IV Breast Cancer with surgery and chemotherapy. Two years later she developed bone metastasis and a new left 4cm adrenal mass. She was started on secondary chemotherapy and the adrenal mass grew to 10cm and last encroaching on the diaphragm and spine causing pain. Her case was discussed at tumor board and it was felt surgical resection of the left adrenal gland was indicated for palliative reasons for a presumed breast cancer metastasis. Pre-operatively functional laboratory studies where negative.

Results: The patient was positioned in 90 degree right lateral position with an axillary roll and airplane arm support and secured to the table with cloth tape after the table was flexed. Five robotic ports were placed in the Dice 5 configuration, including 2 assistant ports, similarly to port placement for robotic renal surgery. Started by taking down the Colo-Renal attachments from the splenic flexure down to the distal sigmoid colon. The spleen, pancreas, and stomach were widely mobilized medially exposing the adrenal mass and its most medial border at the diaphragm. The mass was dissected free, and the adrenal vein was controlled with the Endo GIA. The arterial supply to the tumor was secured with the robotic vessel sealer and monopolar scissors. There was no local invasion of any of the adjacent structures. Specimen was bagged and extracted. Total operative time was 88 minutes, EBL 50 cc’s. The patient was discharged on POD 1 and there were no perioperative or postoperative complications. Pathology showed pT2N0 margin negative Adrenocortical Carcinoma (ACC)-10.5cm, no vascular or extra adrenal extension, specimen weight 365 gms., Ki-67 negative. She did not receive adjuvant therapy and currently being surveyed.

Statement of Conclusions: RALA can be efficiently and effectively be performed in large Adrenocortical Carcinoma (ACC). Strict adherence to Urologic Oncologic principles need to be followed with the preparation for the possibility of resection of adjacent organs and vascular thrombus with a negative margin.