Disclaimer

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1. INTRODUCTION

1a. Patient Benefits

`da Vinci®` Radical Cystectomy offers patients numerous potential benefits, including:

- Significantly less pain medication\(^1,2\)
- Less blood loss\(^2,3\)
- Fewer transfusions\(^3\)
- Fewer major complications\(^4\)
- Improved cosmesis
- Shorter hospital stay\(^3,4\)
- Fast recovery time

1b. Surgical Benefits

`da Vinci` Radical Cystectomy maintains the oncologic principles of open radical cystectomy while also providing the potential benefits of a minimally invasive approach. The unsurpassed visualization, precision, dexterity and control provided by the `da Vinci` System offers the potential for:

- Favorable operative, pathologic and short-term oncologic outcomes\(^2,4,5\)
- Meticulous dissection for standard and/or extended lymphadenectomy\(^2,4,5\)
- Complete and anatomic bladder removal with minimal blood loss\(^6\)
- Precise suturing of the DVC and creation of watertight urethra-neobladder anastomosis\(^5\)
- Enhanced ability to preserve the neurovascular bundles in appropriately selected patients\(^7\)
- A more rapid return of bowel function\(^2,5\)

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\(^3\) Wang, G.J., et al., Robotic vs open radical cystectomy; prospective comparison of perioperative outcomes and pathological measures of early oncological efficacy. BJU Int, 2008. 101(1); p. 89-93.
2. INSTRUMENTS AND ACCESSORIES

2a. Recommended EndoWrist Instrumentation

- **HotShears™ (Monopolar Curved Scissors) (400179/420179)**
- Maryland Bipolar Forceps (400172/420172)
- 2 Large Needle Drivers (400006/420006) or 1 Large Needle Driver (400006/420006) and 1 **SutureCut™ Needle Driver (400309/420309)**
- Fenestrated Bipolar Grasper (400205/420205)
- **EndoWrist Hem-o-lok® Clip Applier, Large (400230/420230)**

2b. Additional EndoWrist Options

- **PK™ Dissecting Forceps (400227/420227)**
- Permanent Cautery Hook (400183/420183)
- **Cobra™ Grasper (400190/420190)**
- Round Tip Scissors (400007/420007)
- **ProGrasp™ Forceps (400093/420093)**

2c. Additional da Vinci Supplies

- Basic accessory kit and drapes
- **Intuitive Surgical camera head**
- **Intuitive Surgical 0º and 30º endoscopes**

2d. Recommended Laparoscopic Instrumentation and Accessories

- 5 mm endoscopic long suction irrigator (45 mm)
- 5 mm endoscopic scissors
- 5 mm endoscopic locking grasper
- 5 mm endoscopic needle driver (for passing suture)
- 10 mm endoscopic Babcock forceps
- 10 mm specimen retrieval bag

2e. Recommended Sutures/Clips

- Dorsal vein stitch
  - o 0 **Vicryl™ on CT-2 or CT-1 (6")**
  - o Alternate: Stapler with vascular load
- Backbleeding/retraction stitch
  - o 0 **Vicryl™ on CT-1 (6")**
- Ureteral and terminal ileum tags
  - o 3-0 **Vicryl™ on SH (full length)**
- Anastomosis stitch (for orthotopic diversion)
  - o 3-0 **Vicryl™ (or Monocryl™) suture on RB-1 or SH**
- **Hem-o-lok (Weck Closure Systems, RTP, NC) Large Clips**
- **Hem-o-lok (Weck Closure Systems, RTP, NC) Extra Large Clips/Endoscopic Applier**
- Clamshell closure stitch (for vaginal reconstruction/female patients)
  - o 2-0 **Vicryl™ (or Monocryl) suture on CT-2**
3. PATIENT SELECTION AND PREPARATION

3a. Patient Selection

Ideal Patient Selection Criteria for Early Cases

- Good performance status
- Non-obese patients (BMI < 30)
- Healthy: age < 70, few co-morbidities
- No previous intra-abdominal or pelvic surgery
- No prior chemotherapy or pelvic radiotherapy
- Low volume disease (non-bulky tumors)
- Avoid patients with moderate to severe cardiopulmonary compromise, a common co-morbidity due to tobacco abuse. Prolonged operative times and steep Trendelenburg positioning may be poorly tolerated by patients with cardiopulmonary disease.

3b. Experience of Surgical Team

Teams should be experienced in robotic surgical approaches. It is recommended that teams be proficient performing da Vinci Prostatectomy before embarking upon a robotic radical cystectomy.

3c. Patient Preparation

Pre-Operative Patient Preparation

- Bowel preparation is dependent on surgeon’s preference and is identical to that of the open radical cystectomy.

Intra-Operative Patient Preparation

- Intra-operative preparation includes shaving the patient from the costal margin to the pubic bone. The abdomen, pelvis, perineum, upper thighs and peri-anal area are prepped and draped in the usual sterile fashion. A Foley catheter and a rectal bougie are inserted.
- Intra-operative fluids are restricted to 500 mL per hour as tolerated by the patient. This minimizes the risk of edema of the face and neck which can occur due to fluids and the steep Trendelenburg position. A nasogastric or orogastric tube is inserted at the start of the procedure and removed at the end of the case.
3d. Operating Room (OR) Configuration

- The following figure shows an overhead view of the recommended OR configuration for a da Vinci Radical Cystectomy (Figure 1).

![Operating room set-up](image)

**Figure 1: Operating room set-up**

**NOTE:** Configuration of the operating suite is dependent on the room dimensions as well as the preference and experience of the surgeon. The assistant can also be placed on the other side of the table, mirroring what is shown above.
4. POSITIONING, PORT PLACEMENT AND DOCKING

4a. Patient Positioning

- After positioning, padding, securing and preparing the patient in the supine position, the table is then placed in a steep Trendelenburg (>20°) position identical to the position used for da Vinci Prostatectomy.
- Place table in Trendelenburg position before rolling in the patient cart (Figure 2).
- A split-leg table with mild leg separation and slight hip extension is used.
- Stirrups or leg boards may be employed (Figure 3).
- Great care is taken to adequately pad and support the patient to avoid neuromuscular injury.
- Sequential compression devices are applied to the legs for DVT prophylaxis.
- Carefully secure patient to the table to avoid any shifting with the Trendelenburg position (Figure 4).

Figure 2: Trendelenburg position

Figure 3: Patient positioning

Figure 4: Patient positioning
4b. Port Placement

- The port placement is similar to da Vinci Prostatectomy with the addition of a 12 mm port on the side opposite of the assistant. Figure 5 demonstrates port placement based on a left-sided assistant.

Preparing for Port Placement

- Veress insufflation is achieved through a vertical skin incision above the umbilicus, 20 cm above the symphysis pubis on the deflated abdomen where the camera port is placed.
- Perform initial assessment of anatomy once the camera port is inserted and place remaining ports under direct vision.

**da Vinci Camera Port, 12 mm (Blue):** Place the port near the umbilicus, 20 cm above the symphysis pubis.

**da Vinci Instrument Arm ① Port, 8 mm (Yellow):** Place the port 8 cm from the camera port, along the line from the umbilicus to the right anterior superior iliac spine (ASIS).

**da Vinci Instrument Arm ② Port, 8 mm (Green):** Place the port 8 cm from the camera port, along the line from the umbilicus to the left ASIS.

**da Vinci Instrument Arm ③ Port, 8 mm (Red):** Place the port 8 cm directly lateral to the instrument arm ① port.

**Assistant Port (A1), 12 mm (White):** Place the port two finger-breadths medial and superior to the ASIS on the left and at least 8 cm from the instrument arm ② port.

**Assistant Port (A2), 12 mm (White):** Place the port for retraction and stapling 10 cm superior to the instrument arm ① port.

**Assistant Port (A3), 5 mm (Black):** Place the port 12 cm superior to the instrument arm ③ port.

*NOTE:* Following port placement, the patient is then placed in the steep Trendelenburg position and the patient cart is docked.
4c. Docking

Positioning the Patient Cart
- Step 1 - Adjust the camera arm set-up joint to side opposite of the 3rd *da Vinci* instrument arm
- Step 2 - Determine “sweet spot”
- Step 3 - Align the camera arm
- Step 4 - Roll in the patient cart
- Step 5 - Dock the patient cart

Step 1: Adjust the Camera Arm Set-Up Joint
- When using all three *da Vinci* instrument arms, position the camera arm set-up joint towards the patient’s side with just one instrument arm, as seen in (Figure 6).

![Figure 6: Positioning of camera set-up joint for 4-arm approach](image)

Step 2: Determining the “Sweet Spot”
- The “sweet spot” maximizes the range of motion for the instrument arms.
- Confirm “sweet spot” prior to docking.
- *da Vinci* S™ System - The blue arrow should align within the blue marker on the 2nd joint (Figure 7a) or there should be ~90° angle between the 1st and 3rd joint on the camera arm (Figure 7b).
- *da Vinci* Surgical System - There should be a ~10 cm distance from the 1st and 3rd joints on the camera arm set-up joint (Figure 8).

![Figures 7a-b: “Sweet Spot” on da Vinci S](image)  
![Figure 8: “Sweet Spot” on da Vinci Standard](image)
Step 3: Align the Camera Arm
- Align the camera arm, camera arm set-up joint, column and target anatomy.
- A straight line should be achieved by aligning the clutch button, the 3rd joint of the camera arm and the gray dot in “da Vinci” on the center column (Figure 9).

Step 4: Roll in the Patient Cart
- Patient is placed in steep Trendelenburg position before rolling in patient cart.
- Patient cart is positioned directly between the legs and locked (Figure 10).
- The base of the cart will straddle the base of the operating table (Figure 11).
- Push aside overhead lights and equipment to maintain sterility of the patient cart.
- The arms of the patient cart should be positioned high enough to clear the height of the patient's legs.

![Figure 9: Align camera arm](image)

Figure 10: Overhead view of docked patient cart

Figure 11: Side view of docked patient cart

Step 5: Dock the Arms
- Ensure camera port, target anatomy and patient cart center column are aligned
- Position camera cannula mount over the camera port and dock
- Use port and arm clutch maneuvers to dock remaining instrument arms
- Maximize spacing between arms
- Keep instruments in the center of their range of motion
5. PROCEDURE STEPS - Male Radical Cystectomy

Instruments:
1 Monopolar Instrument
1 Bipolar Forceps
Grasper for 3rd Instrument Arm (Fenestrated Bipolar, Cobra Grasper, ProGrasp Forceps)
Additional Option: EndoWrist Hem-o-lok Clip Applier, Large

Anatomy Overview:

![Pelvic anatomy overview](image)

**Procedure Overview:**

**Male Radical Cystectomy (Cystoprostatectomy)**
Surgery to remove the bladder, prostate, seminal vesicles and lymph nodes

![Lateral view before surgery](image)

![Lateral view after surgery](image)
5a. Isolate the Ureters - Step 1

- The goal of this step is to first dissect the ureters distally to the level of the bladder, then to ligate and transect them.

**Figure 15a: Diagram of ureteral incision**

**Figure 15b: Intra-operative image of ureteral incision**

**Identify the Ureters**

- Sharply release sigmoid adhesions on the left side of the bladder to mobilize the sigmoid colon.
- The posterior peritoneum is incised to identify the ureters bilaterally (Figures 15a and 15b).
- The ureters are frequently identified just medial to the spermatic vessels or they may be found crossing over the iliac vessels.

**Ureteral Dissection and Ligation**

- Ureteral dissection is carried out proximally as far as possible and distally to the level of the bladder (Figure 16).
- Ligate the ureters using clips and transect (Figure 17).
- After transection the ureters are released proximally and tucked into the upper quadrants, away from the pelvic dissection.

**Caveats & Considerations:**

- Laparoscopic Babcock forceps can be used to encircle the ureter to assist with dissection.
- Use 3D HD vision and magnification to help preserve the healthy tissue around the ureters.
- Avoid grasping the ureters to prevent crush injury and devascularization.
5b. Posterior Dissection - Step 2

- The aim of this dissection is to mobilize the bladder and base of the prostate off the rectum.

**Incise the Posterior Peritoneum**

- The posterior peritoneum is incised just above its reflection over the rectum, connecting the incisions previously made for the ureteral dissection (Figures 18a and 18b).
- A grasper may be used in the 3rd instrument arm to retract the bladder anteriorly and/or to give lateral traction to the redundant sigmoid colon.

**Develop the Rectovesical Space**

- Use blunt dissection to develop the rectovesical cul-de-sac.
- Mobilize the bladder and the base of the prostate off the rectum (Figure 19).

**Caveats & Considerations:**

- If necessary, the 30° up scope can be used for adequate posterior visualization; the 0° scope is adequate in most cases.

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Figure 18a: Diagram of posterior incision  
Figure 18b: Intra-operative image of posterior incision  
Figure 19: Posterior dissection
5c. Lateral Dissection - Step 3

- During this step, the goal is to develop the space between the bladder and lateral pelvic sidewalls. This will facilitate exposure and isolation of the bladder pedicles.

![Figure 20a: Diagram of lateral incision](image)

Figure 20a: Diagram of lateral incision

![Figure 20b: Intra-operative image of lateral incision](image)

Figure 20b: Intra-operative image of lateral incision

- Lateral incisions in the peritoneum are made bilaterally to develop the perivesical space.
- Incisions are made from the medial umbilical ligaments and connect the posterior peritoneal incisions made with the initial ureteral dissection (Figures 20a and 20b).
- The line of incision travels parallel to the spermatic cord.
- It is important not to drop the bladder at this point. The urachal and medial umbilical attachments are left intact, in order to suspend the bladder.
- The perivesical space is developed distally to the level of the endopelvic fascia (Figure 21) and continues posteriorly to the bladder pedicles.
- At this point the lateral vascular pedicles of the bladder are readily visualized.

![Figure 21: Dissect to the level of endopelvic fascia](image)

Figure 21: Dissect to the level of endopelvic fascia

Caveats & Considerations:

- Care should be taken to avoid aggressive lateral dissection as the iliac vessels are located here.
- It is important not to drop the bladder at this point, since the bladder’s suspension will facilitate additional posterior dissection which may be needed to secure the bladder pedicles.
5d. Securing Bladder Pedicles - Step 4

- A laparoscopic endovascular linear stapler/cutter is used to ligate and transect vascular pedicles to the bladder.

![Diagram of bladder pedicles](image1)

![Intra-operative image of bladder pedicles](image2)

- Identify bladder pedicles (Figures 22a and 22b) and isolate them (Figure 23).
- A laparoscopic endovascular stapler is used to ligate and transect the vascular pedicles to the bladder (Figure 24).
- Usually, a single fire 60 mm stapler/cutter is sufficient to secure the bladder pedicles.
- The console surgeon may aid in retraction while the assistant positions and fires the stapler.
- In a nerve-sparing procedure, the surgeon should not be overly aggressive with the distal dissection and pedicle ligation as this may injure the neurovascular bundles. However, intact endopelvic fascia helps prevent the stapler tips from closing too far distally.
- Alternatively, clips and bipolar forceps may also be used to secure the vascular pedicles.

![Isolate bladder pedicle](image3)

![Secure bladder pedicle using an endovascular stapler](image4)

**Caveats & Considerations:**

✔ A grasper in the 3rd instrument arm may be used to retract redundant bladder.
5e. Anterior Dissection - Step 5

- The aim of this dissection is to drop the bladder posteriorly as is done in *da Vinci* Prostatectomy in order to access the space of Retzius.

![Figure 25a: Diagram of anterior incision](image)

![Figure 25b: Intra-operative image of anterior incision](image)

**Incise Anterior Peritoneum**

- The peritoneum is incised anteriorly through the medial umbilical ligaments and the urachus (Figures 25a and 25b).
- The bladder is dropped as is done in *da Vinci* Prostatectomy (Figure 26).
- The endopelvic fascia is identified and incised bilaterally.

![Figure 26: Incising anterior peritoneum](image)
5f. Ligating the Dorsal Venous Complex (DVC) - Step 6

- During this step, the goal is to control the dorsal venous complex and prostatic apex.
  - The DVC is secured just as is done in da Vinci Prostatectomy.
    - The DVC is ligated with a 6 inch 0 Vicryl™ on a CT-2 needle (Figure 27).
    - A “backbleeding” stitch is placed for retraction and exposure of the prostatic apex. This is a 6 inch 0 Vicryl™ on a CT-1 needle (Figure 28).
  - When an orthotopic neobladder is planned, care is taken to maintain adequate urethral length during the apical dissection. For other types of diversions, a long urethral margin is left on the specimen.
  - At this point the Foley catheter is left in place.

![Figure 27: Ligating dorsal venous complex](image1)

![Figure 28: Placing "backbleeding" stitch](image2)

5g. Prostatic Dissection/Nerve-Sparing - Step 7

- In this step, the remaining lateral tissue and prostatic pedicles are taken with clips and bipolar cautery. In select patients a nerve-sparing technique may be performed.

Prostatic Dissection

- In a non-nerve-sparing procedure the remainder of the lateral tissue and prostatic pedicles are taken with clips or bipolar cautery, freeing up the entire specimen.

Athermal Bilateral Nerve-Sparing Technique

- Nerve-sparing in da Vinci Radical Cystectomy is undertaken in the same fashion as in da Vinci Prostatectomy.
- Care must be taken to avoid thermal energy and traction injury to the neurovascular bundles.
- The prostate and bladder are retracted laterally and superiorly to expose the contralateral prostatic pedicle. The pedicle is secured with clips and sharply divided with cold scissors.
- The contralateral pedicle is secured and nerve preservation is performed in a similar manner.

Transection of the Urethra

- The posterior urethra is transected and any remaining prostatic attachments are freed.
- A clip may be applied proximally to the Foley catheter to prevent urine spillage prior to transection of the urethra.
5h. Specimen Retrieval - Step 8

- Once the cystoprostatectomy specimen is free, it should be placed into a retrieval bag.

**Bag Specimen**

- With the specimen completely free, a clip is applied to the Foley catheter and it is transected to avoid urinary spillage and contamination.
- The catheter is cut outside of the patient and the cut end is brought into the pelvis.
- The specimen is then placed in a retrieval bag which is moved out of the pelvis.
- The pelvis is irrigated, the rectal surface inspected and hemostasis is ensured.
- A urethral margin is sent for frozen section evaluation.

5i. Pelvic Lymphadenectomy - Step 9

- The goal of this step is to perform a complete lymphadenectomy.

**Lymph Node Dissection**

- Lymphadenectomy is carried out utilizing sharp and blunt dissection (Figures 29a and 29b).
- Clips may be used for hemostasis and lymphastasis.
- Margins of lymphadenectomy vary according to the discretion of the surgeon, and generally include the obturator nodes, the external iliac nodes and the common iliac nodes up to the aortic bifurcation.
- Para-aortic lymphadenectomy is also possible, particularly with the use of the da Vinci S System which allows for more range of motion of the robotic arms.

Figure 29a: Pelvic anatomy guide

Figure 29b: Pelvic anatomy intra-operative image

**Caveats & Considerations:**

- During dissection over the iliac vessels, care should be taken to avoid inadvertent injury to the vein. During this procedure, the patient is placed in the steep Trendelenburg position and maintained relatively hypovolemic. Consequently, the iliac vein can be decompressed and thereby prone to grasping or sharp injury. Decreasing the insufflation pressure to 10-12 mmHg during this portion of the procedure may allow for distension of the vein and better visualization.
- Pelvic lymph node dissection is typically performed after the cystectomy since absence of the bladder and prostate from the pelvis facilitates room and exposure for the lymphadenectomy.
- The nodal packet can be placed in a specimen bag and removed through the 12 mm assistant port or placed in a specimen bag for later removal.
5j. Tagging the Ureters - Step 10

- The goal of this step is to tag the ureters in order to allow for ready identification during the urinary diversion.

  - Before undocking the da Vinci System, the ureters are returned to the pelvis.
  - At the distal end of each ureter, a full-length 3-0 Vicryl™ suture on a SH needle is placed as a tag, and the ends are brought out through the assistant ports on each side (Figure 30).
  - A 3-0 Vicryl™ stitch may also be placed in the terminal ileum to allow for its ready identification during the urinary diversion.

![Figure 30: Tagging the ureters](image)

5k. Pre-Placing the Anastomotic Stitches for the Orthotopic Neobladder (Option 1) - Step 11

- For an orthotopic neobladder the posterior anastomotic stitches can be pre-placed in the urethra if the urethra-neobladder anastomosis will be performed extracorporally. Another option is to perform the anastomosis robotically following urinary diversion (Option 2).

Placing Posterior Sutures

- 3-0 Vicryl™ sutures (on RB-1 needles) are placed at the 5 and 7 o’clock positions in the urethra prior to undocking the da Vinci System for urinary diversion.
- These posterior sutures are sometimes the most difficult to place in an open fashion and pre-placement under robotic guidance is easier.
- The da Vinci System is then undocked.
- Upon completion of the urinary diversion, the urethra-neobladder anastomosis is completed through the open incision.
5l. Urinary Diversion - Step 12

- During this step, a urinary diversion is created extracorporeally.

**Prepare Field and Perform Diversion**

- Undock the *da Vinci* System.
- The ureteral sutures are kept through their corresponding port sites and tagged.
- It is important to keep the patient in the Trendelenburg position initially in order to prevent the intestines from descending into the pelvis.
- A 6 to 8 cm infraumbilical midline incision is made to perform the urinary diversion.
- Through this incision any further mobilization of the ureters can be carried out if needed.
- For an ileal conduit, the left ureter is tunneled under the sigmoid mesentery.
- In the case of an orthotopic neobladder where the afferent limb lies on the left side, the right ureter is tunneled underneath the sigmoid mesentery.
- The terminal ileum may be identified with the assistance of the replaced stitch, and a segment of bowel is harvested.
- The planned urinary diversion is then performed extracorporeally and the ureteroenteric anastomosis is completed.

**Complete the Urethra-Neobladder Anastomosis (Option 1)**

- For an orthotopic neobladder, the pre-placed posterior urethral stitches are placed in their proper position in the neobladder neck. Anterior anastomotic sutures are placed and the anastomosis is completed.

5m. Perform the Urethra-Neobladder Anastomosis (Option 2) - Step 13

- The goal of this step is to perform a watertight urethra-neobladder anastomosis using the same principles required to perform an urethrovesical anastomosis in *da Vinci* Prostatectomy.
  - The neobladder specimen is returned to the pelvis and the abdominal incision is closed, except for the upper most portion through which the camera port is inserted.
  - The abdomen is insufflated and all robotic arms are docked.
  - Create an opening in the neobladder in the most dependent portion.
  - The running anastomosis is constructed using a double-armed 3-0 *Vicryl™* or *Moncryl™* on either an RB-1 or SH needle as is done for the urethrovesical anastomosis in a *da Vinci* Prostatectomy (Figure 28).
  - Sew outside to inside on the neobladder and inside to outside on the urethra starting near the 6 o’clock position.
  - Irrigate to confirm a watertight urethra-neobladder anastomosis.

*Figure 31: Creating urethra-neobladder anastomosis*
6. PROCEDURE STEPS - Female Radical Cystectomy

Instruments:
1 Monopolar Instrument
1 Bipolar Forceps
Grasper for 3rd Instrument Arm (Cobra Grasper, Fenestrated Bipolar, ProGrasp Forceps)
Additional Option: EndoWrist Hem-o-lok Clip Applier, Large

Procedure Overview:
Female Radical Cystectomy (Anterior Pelvic Exenteration)
Surgery to remove the bladder, uterus, cervix, ovaries, anterior wall of the vagina* and lymph nodes

* The vagina may be spared in select cases.

NOTE: Several steps for performing a da Vinci Radical Cystectomy on a female patient are the same as the steps presented in the Male Radical Cystectomy (Section 5). Steps unique for a female patient are presented here.
6a. Divide Ovarian Pedicles - Step 1
- Prior to identification of the ureters, the ovarian pedicles are identified and divided between clips.

6b. Isolate Ureters - Step 2
- Follow steps in Section 5a in order to isolate ureters.

6c. Dissection of Uterine Support - Step 3
- After ureters are isolated, the uterus is anteverted and retracted using the 3rd instrument arm.
- The cardinal and uterosacral ligaments should be divided bilaterally.
- The uterus is dropped and retracted proximally for the retrovesical dissection.

6d. Secure Bladder Pedicles - Step 4
- Once the bladder pedicles are isolated, they are secured using the technique presented in Section 5d.

6e. Vaginal Dissection - Step 5
- Visually identify the junction of the vagina and the bladder.
- This step may be facilitated by filling the bladder with approximately 100 mL of saline.
- A transverse incision opens the junction until the uterine manipulator or sponge stick is visible within the vagina.
- The vaginal incision is carried laterally past the urethra to ensure that a strip of the anterior vaginal wall is removed en bloc with the bladder.
- In the case of a vaginal sparing procedure, the plane between the bladder and vagina can be developed.

6f. Anterior Dissection - Step 6
- Follow steps presented in Section 5e to drop the bladder.

6g. Ligation of Dorsal Venous Complex (DVC) - Step 7
- The DVC is ligated and the urethra is transected using the technique presented in Section 5f.

6h. Completion of Hysterectomy and Bi-Lateral Salpingo-Oophorectomy - Step 8
- After the bladder is removed, the uterus is retracted superiorly using the 3rd instrument arm and the uterus and cervix are excised.
- In cases where the anterior vaginal wall is resected, the specimen may be delivered through the introitus.
- In vaginal sparing cases, the specimen may be placed in a specimen bag and removed through the abdominal incision made for the urinary diversion.

6i. Reconstruction of the Vagina (if necessary) - Step 9
- The vagina is reconstructed using the clam-shell technique.
- The edges of the vagina are closed using a running interlock suture.
- The pneumoperitoneum is decreased to evaluate homeostatus prior to proceeding to pelvic lymph-node dissection.

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**NOTE:** The remaining procedure steps follow the same steps that are used for performing a *da Vinci* Radical Cystectomy on a male patient.

6j. Pelvic Lymphadenectomy - Step 10
   - Follow steps in Section 5i.

6k. Tagging the Ureters - Step 11
   - Follow steps in Section 5j.

6l. Pre-Placing Anastomotic Stitches for Orthotopic Neobladder (Option 1) - Step 12
   - Follow steps in Section 5k.

6m. Urinary Diversion - Step 13
   - Follow steps in Section 5l.

6n. Urethra-Neobladder Anastomosis (Option 2) - Step 14
   - Follow steps in Section 5m.

7. POST-OPERATIVE CARE
   - Post-operative considerations should be based on surgeon's experience and preference.
APPENDIX A

Cannula Remote Center Set-Up

- To correctly place the remote center, the thick black line on the da Vinci cannula (which indicates the remote center) should be inserted within the boundaries of the patient’s body wall. Correct placement will allow the robotic instrumentation to pivot through the incision with the least friction and highest precision, which will minimize tissue trauma (Figure A1 a, below).
- Correct placement of the cannula should be verified by looking at the cannula tip with the endoscopic camera (cannulas should always be placed under endoscopic camera view). Only the first thin line at the distal cannula tip should be visible. This indicates that the remote center is placed correctly within the boundaries of the patient’s body wall (Figure A1 b, below).
- If the thick black line on the cannula is seen in the endoscopic view, this means that the remote center is set incorrectly (inserted too deeply). Setting the remote center incorrectly will increase friction, reduce precision and increase tissue trauma at the port site (Figure A1 c, below).

Figure A1: Proper placement of the instrument’s cannula remote center