

Robotic Partial Nephrectomy

Dr. Stephen Lukasewycz



Open on
phone

WHAT IS THIS PROCEDURE?

A **partial nephrectomy** removes a tumor from the kidney while saving the rest of the kidney.

Robotic: the surgeon works through several small ports in the side and abdomen using the robot. The abdomen is inflated with gas to make working room.

Clamping: the kidney's artery (and sometimes vein) is clamped with small bulldog clamps so the tumor can be cut out without heavy bleeding. The kidney is then stitched closed and the clamps come off. Clamp time is kept as short as possible.

Ultrasound: a small robotic ultrasound probe finds the edges of the tumor before it is cut out.

KEY POINTS

- **Dr. Lukasewycz is present for all positioning.** He marks the midline before positioning; have a skin marker ready.
- **Lateral, operative side up,** flank over the bed's flex point. Have several rolls of tape ready.
- **Counted procedure.**
- **Clamp time:** start a timer when the artery/vein is clamped. **No staff changes while clamped;** put "Clamped – no breaks" signs on the doors.
- **Ultrasound:** robotic drop-in probe (BK). Connect the probe before turning the machine on.
- **AirSeal** for insufflation in all robotic surgery suites.

PORTS

- **8 mm da Vinci ports ×4**
- **12 mm AirSeal port ×1**
- **Assistant port:** 5 mm or 12 mm depending on the case. **Ask the surgeon which.**
- **Right kidney only:** 5 mm port for the liver retractor. Not used on the left.
- **First (camera) port:** blunt black reusable obturator from the robot set. Ports are placed using the da Vinci scope.
- Obese patient: long 8 mm da Vinci ports and long 12 mm AirSeal trocar.
- 1% lidocaine plain for port sites.

ROBOTIC INSTRUMENTS

Open

- Monopolar curved scissors
- Fenestrated bipolar

Available in room, open only if asked

- 30° robotic scope

- ProGrasp
- Large needle drivers ×2
- 0° robotic scope
- Robotic bulldog clamps and appliers
- Robotic drop-in ultrasound transducer (BK)
- Da Vinci Lapra-Ty applier

ASSISTANT (PA) INSTRUMENTS

Open

- Suction irrigator (Surgiflex)
- Laparoscopic scissors
- 10 mm laparoscopic spoon (Snowden Pencer)
- Weck Hem-o-lok 10 mm applier ("purple") with large clips
- Lapra-Ty clips

Available in room, open only if asked

- Weck Hem-o-lok XL applier ("gold") with XL clips
- Echelon stapler (45 or 60 mm) with white vascular reloads

SUTURES AND CLOSURE

- **Kidney repair (renorrhaphy):** 3-0 V-Loc 90, CV-23 (violet) ×3.
- **Sliding-clip sutures:** 2-0 Vicryl CT-1, undyed, cut to 6 inches. **Number varies: at least 4; the surgeon will say how many.** Tie a knot at the end, place a Lapra-Ty just in front of the knot, then a Hem-o-lok at 90° in front of the Lapra-Ty.
- **Bolster:** Surgicel 4×8 wrapped around a small Gelfoam, sewn into place.
- 0 looped PDS CTX ×1 if the incision is extended (mini-open).
- 2-0 silk FS to secure the drain.
- 0 Vicryl UR-6 for port fascia.
- 4-0 Vicryl PS-2 for skin; Dermabond on port sites.

OTHER SUPPLIES

Open

- General pan and robot pan
- Specimen bag: Inzii 10 mm (the smaller bag)
- **19 Blake drain with reservoir: always opened for partials**
- Surgicel 4×8 (open one), small Gelfoam
- Foley 16 Fr temperature-sensing tray
- Skin marker; 3-inch tape ×5 rolls
- Towels with skin stapler, lap chole drape, CHG loban strips
- Warm saline for the irrigator

Available in room, open only if asked

- More Surgicel 4×8; Surgicel powder with lap applicator
- Surgiflo

GLOVES: MD AND PA

MD

- Port placement: single 7.5 white.
- Closing: double glove, 7.5 blue under 7.5 white.

PA

- Aimee: 7 blue, 6.5 white
- Carras: 7 blue, 6.5 white
- Heather: 6.5 micro ×2
- John: 7.5 blue, 7 white
- Olivia: 7 blue, 6.5 white

ROOM SETUP

- Robot bed in regular set-up (no diving board), with head piece.
- Robot on the operative side, approaching over the patient's back.
- Vision tower on the same side as the robot; AirSeal; boom suction at the patient's left shoulder, by anesthesia.
- Ultrasound machine in the room. Urology ultrasound is in the equipment room; plug into the "TilePro input" (1st or 2nd slot on the back of the surgeon console). **Connect the probe before turning the ultrasound on**, or it won't register and must be restarted.
- Erbe settings: coag 3, cut 5, bipolar 3.
- To pair the bed to the robot: press Pair on the bed remote, then the button that appears on the robot tower monitor.

ANESTHESIA

- General anesthesia.
- Perioperative antibiotics: cefazolin (Ancef) 2 g IV, unless otherwise noted or allergy.
- SCDs on and running before induction.
- Foley after induction, secured to the thigh opposite the operative side.

POSITIONING

- Midline marked by the surgeon before positioning.
- Lateral, operative side up, flank over the flex point.
- Rolled bath blankets (one single, one double roll) rolled into the draw sheet, front and back.
- Foam axillary roll; arm across the chest on a CV armboard.
- Pillows ×2–3 between the legs; bottom leg flexed, top leg straight; small foam donuts at the lateral knee and ankle.
- Seat belt across the hips. After the table is flexed, blue towels over hips, shoulders and legs, taped.

PREP AND DRAPE

- Clip hair if needed.

- ChloraPrep: operative flank, nipples to pubis/hip bone, bedside to bedside.
- The surgeon may want the abdomen lifted during the prep, with a sterile towel placed under it by the scrub.
- Towels secured with skin staples, lap chole drape, CHG loban strips.

SPECIMENS

- **Ask the surgeon how to send each specimen.** He sometimes requests gross photos.
- Dressing: Dermabond on port sites; drain sponge and Medipore on the drain.
- Wound class: II (clean-contaminated).