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KU Leuven Exp Urology - Urodynamics in Female Minipigs [↗](#)

PLOS One

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## ABSTRACT

**Summary:**

This protocol provides information for the invasive urodynamic measurement of bladder pressure, by urethral catheter as well as wireless device (bladder pill).

## EXTERNAL LINK

<https://doi.org/10.1371/journal.pone.0225821>

## THIS PROTOCOL ACCOMPANIES THE FOLLOWING PUBLICATION

Soebadi MA, Bakula M, Hakim L, Puers R, Ridder DD (2019) Wireless intravesical device for real-time bladder pressure measurement: Study of consecutive voiding in awake minipigs. PLoS ONE 14(12): e0225821. doi: [10.1371/journal.pone.0225821](https://doi.org/10.1371/journal.pone.0225821)

## MATERIALS TEXT

*Equipment*

1. Aquarius TT urodynamics machine – calibrated
2. Calibration tube 30 cm
3. Scale 2 kg
4. Luggage scale
5. Speculum, forceps, needle holder/scissor combo
6. Guidewire
7. Amplatz renal dilator set (antenna, dilator, sheath)
8. Cystoscope, grasping forceps, light cable
9. Telepack/endoscopy camera

*Consumable*

1. Ketamine 3 vials
2. Xylazine 6 ml
3. Catheter single channel & multi channel (3 new each)
4. NaCl 0.9% 3 L x3
5. Catheter gel
6. Suture polyglactin (vicryl) 3-0
7. Duct tape

- 1 Preparation: Bring machine and all consumables to room

- 2 Fill calibration tube with saline
- 3 Check calibration with tube
- 4 Open charge switch AND flush balloon
- 5 Measurement: Isolate minipig for study, bring in transport cart & administer sedation: Ketamine 15 mg/kg (Nimatek 100 mg/ml) Xylazine 2 mg/kg (Xyl-M 2%); (at 60-80 kg, 6-8 ml of Nimatek, 1-1.5 ml of xylazine>>
- 6 Wait 10-15 minutes outside of cage until minipig sedated
- 7 Place minipig prone at caudal end,.
- 8 Prepare urethral silicone cath, gel, tape.
- 9 Insert single and triple channel catheter in urethra, insert rectal catheter
- 10 Put belt or frame around midsection
- 11 Set zero on UDS machine then charge catheter.
- 12 Put tape around charge switch
- 13 Tape plastic around posterior and tape funnel
- 14 Wait for animal to wake up (start eating) and start filling at 10% of voided volume (at volume more than 500 ml fill 50 ml/minute)
- 15 Repeat up to 5 voids
- 16 At end of procedure, anesthetise and extract pill.



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