

Spina Bifida: Complex Decision Points Through the Lifespan

SPU – Fall Meeting
Scottsdale, 2019



NEUROGENIC BLADDER



Lapides et al., 1972

Milestone in Urology

CLEAN, INTERMITTENT SELF-CATHETERIZATION IN THE TREATMENT OF URINARY TRACT DISEASE

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(Reprinted from J Urol, 107: 458-461, 1972)

McGuire et al., 1981

PROGNOSTIC VALUE OF URODYNAMIC TESTING IN MYELOYDYSPLASTIC PATIENTS

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(Reprinted from J Urol, 126: 205-209, 1981)

- Provided concept of leak point pressure
- Predict patients at risk for upper tract damage
- Evaluated 42 pts w/ myelodysplasia
 - 20 pts with DLPP \leq 40 cm H₂O
 - 22 pts with DLPP $>$ 40 cm H₂O

Bauer et al, 1984

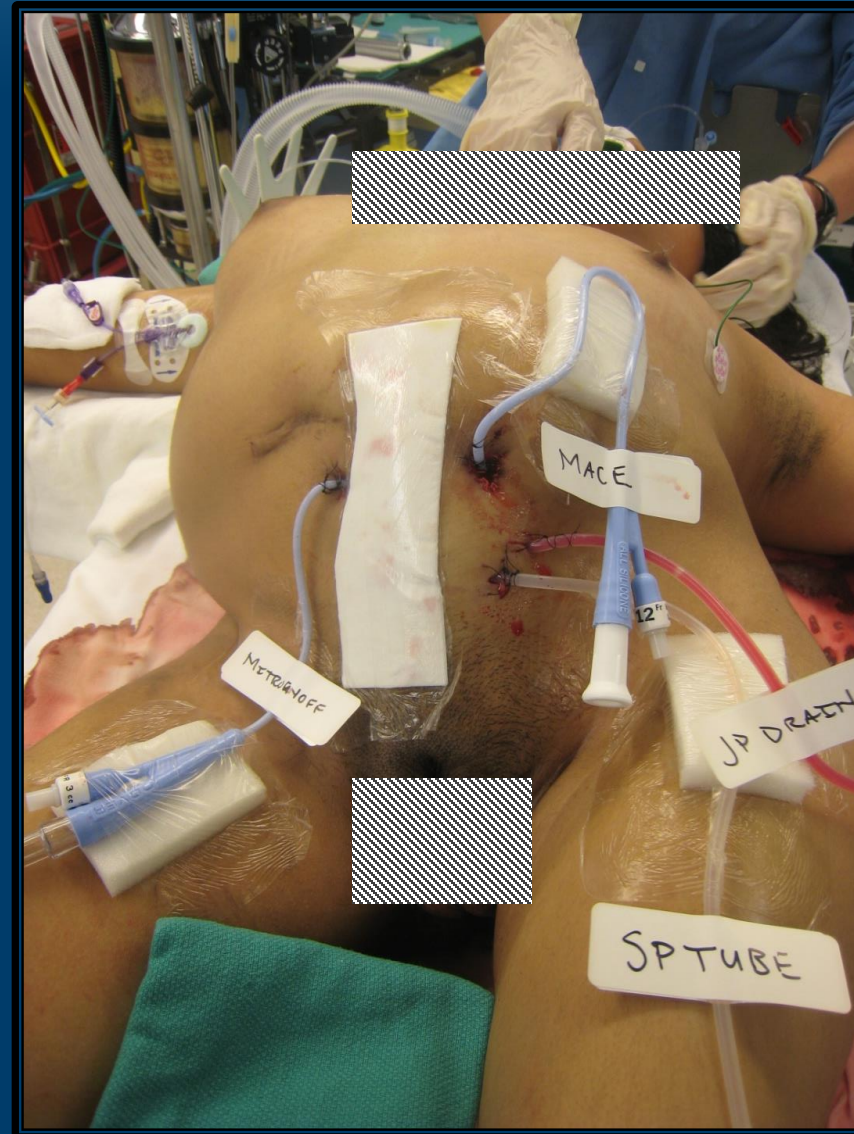
MM Newborn urodynamics

- BLADDER:
 - 57% with some bladder contractions
 - 43% areflexic
 - 2/3 with good compliance
 - 1/3 with poor compliance
- SPHINCTER:
 - 47% no evidence of denervation
 - 53% partial to complete denervation
- *DIRECT CORRELATION BETWEEN DYSSYNERGY AND UPPER TRACT DETERIORATION*

Bauer et al. J Urol, 1984







Prenatal Closure







UMPIRE

Urologic Management to Preserve Initial Renal
Function Protocol for Young Children with
Spina Bifida







PANEL

- Bladder Function Following Prenatal Closure
Elizabeth B. Yerkes, MD
- Role of Urodynamics and CIC in Infants
Stacy T. Tanaka, MD
- Surgery for Continence: Lessons Learned
Richard C. Rink, MD

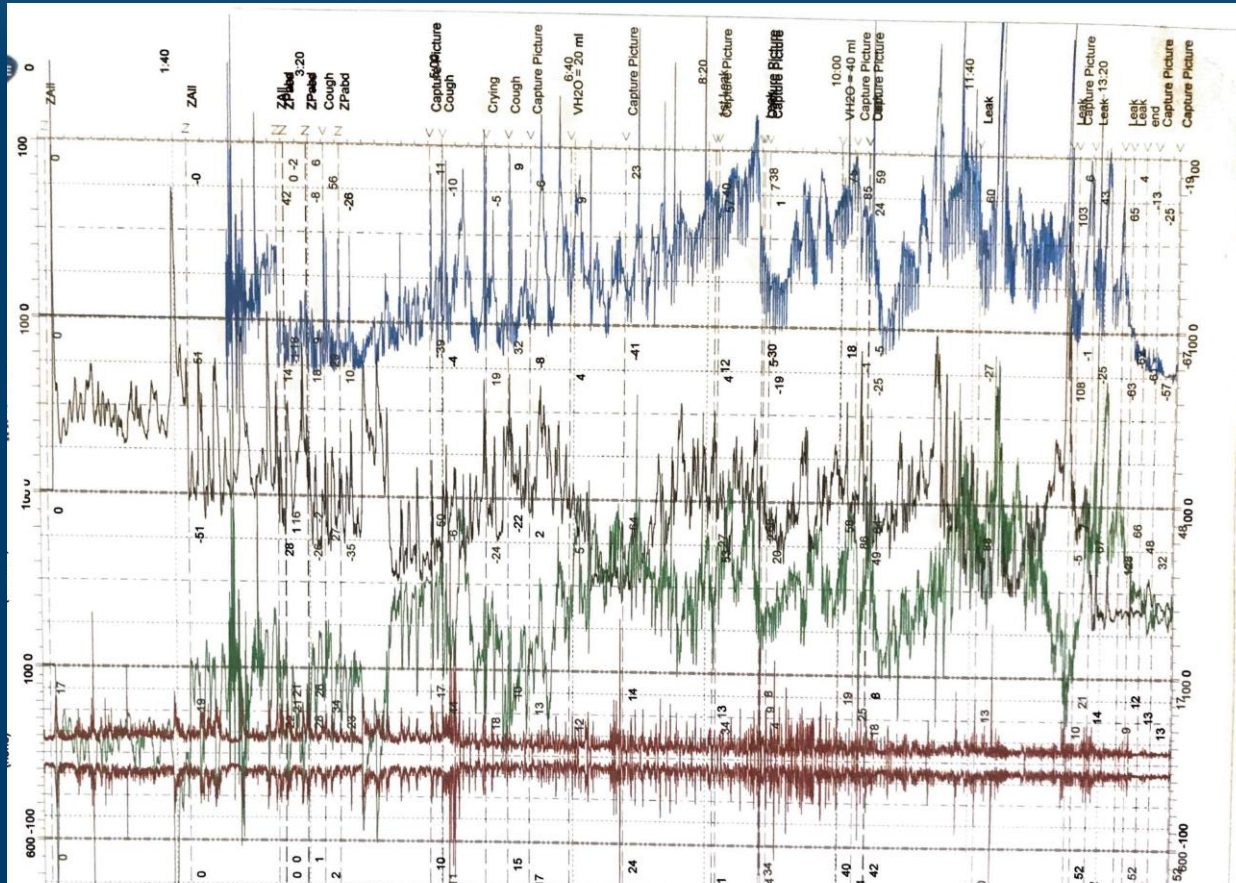
CASE PRESENTATIONS



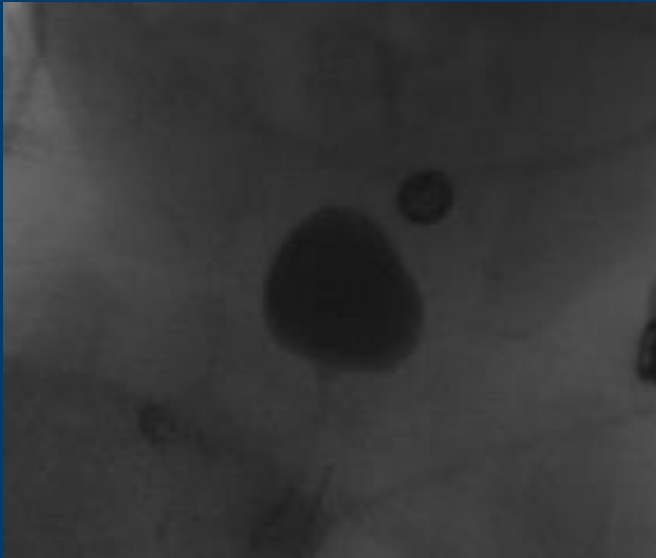


3 Month old with MM

- Closed post nately
- Not on CIC
- Voiding spontaneously with minimal PVR
- Ultrasound normal



Bladder capacity: 50 cc
LPP: 50 cm H2O



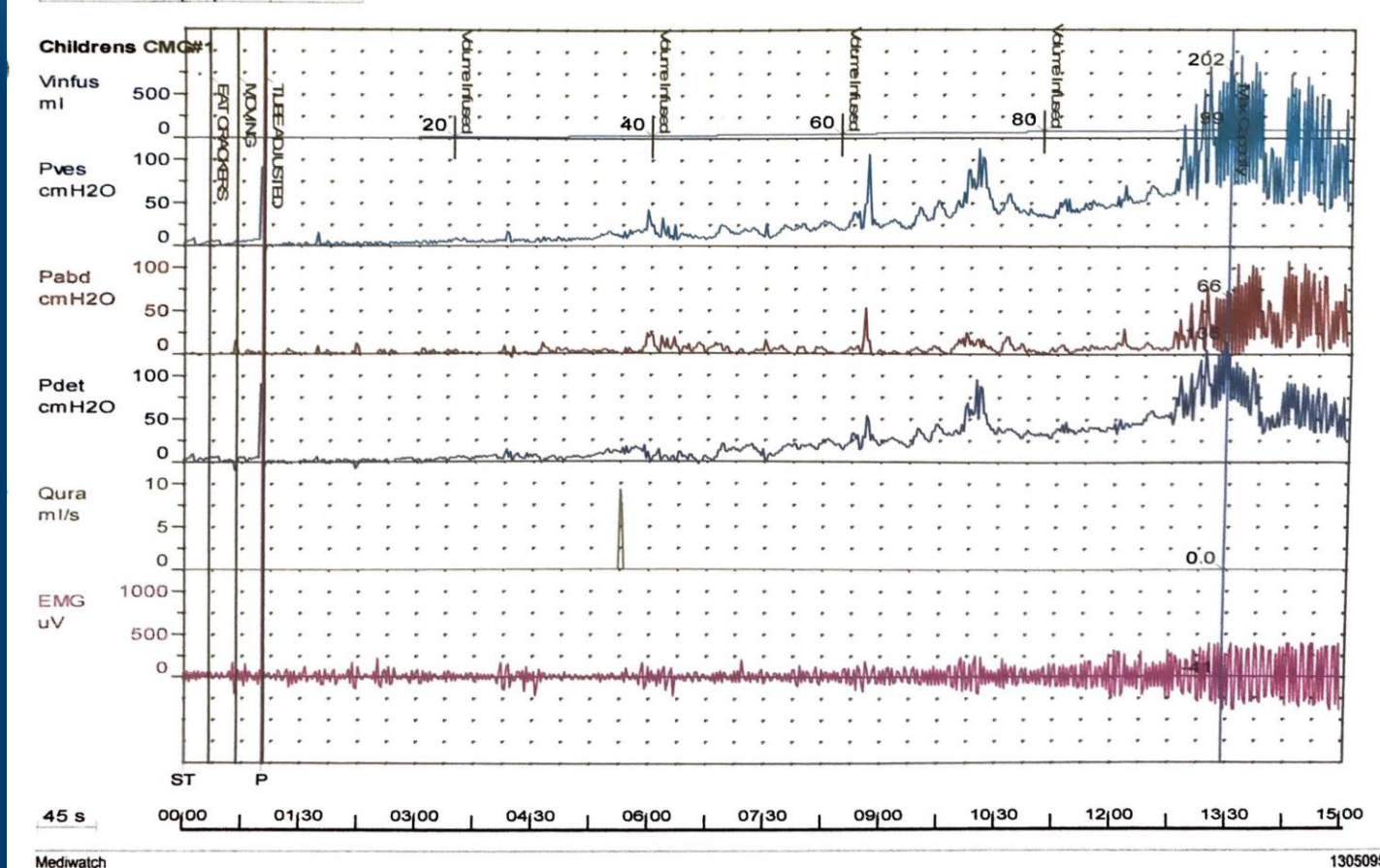
6 months of age

- On CIC with some leakage in between caths
- Not complaint with oxybutinin
- No infections
- Ultrasound: Normal aside from Grade 1 hydronephrosis of left kidney



9 months of age

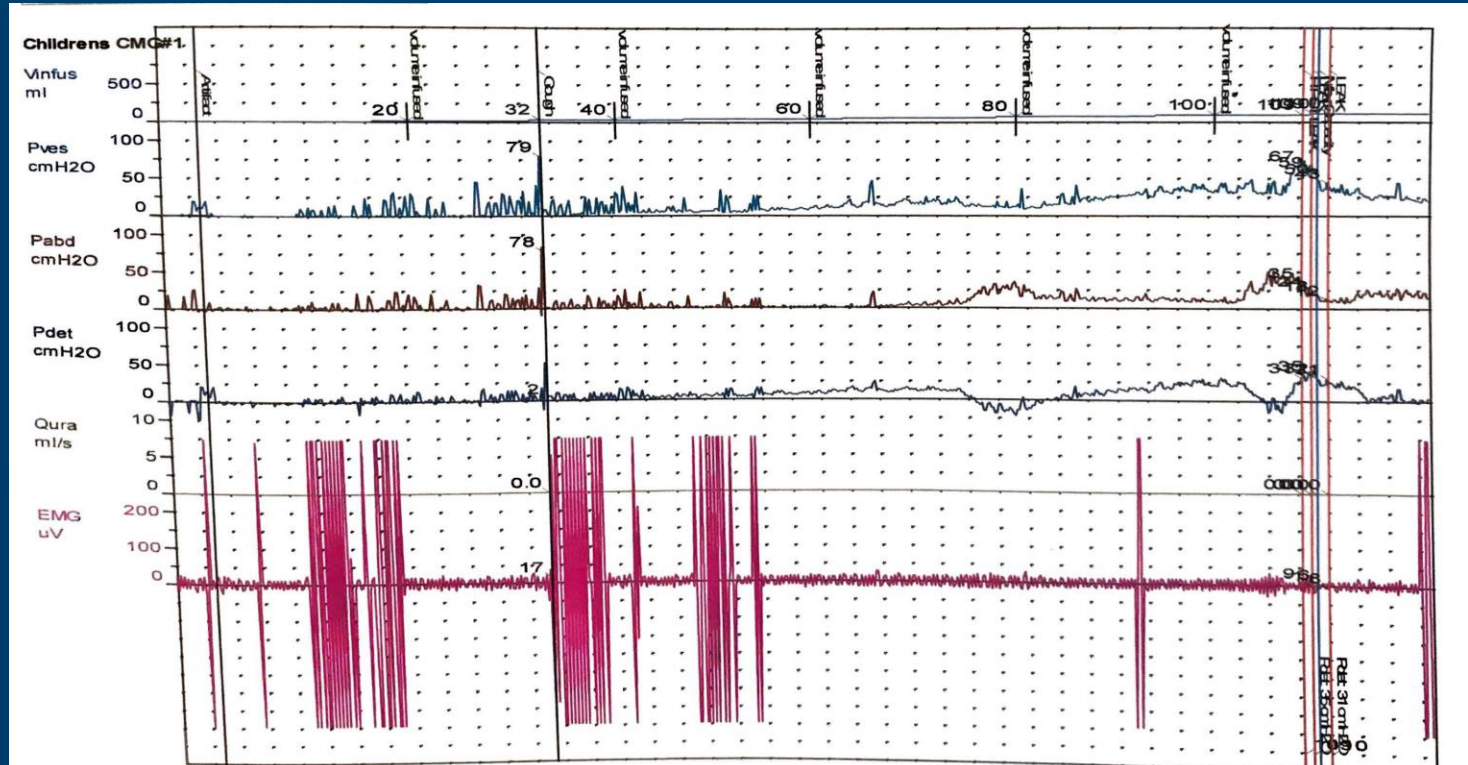
- CIC with minimal leakage
- Compliant with oxybutynin
- No infections
- Ultrasound: normal



Bladder capacity : 90 cc
LPP: 70 cm H2O

3 years of age

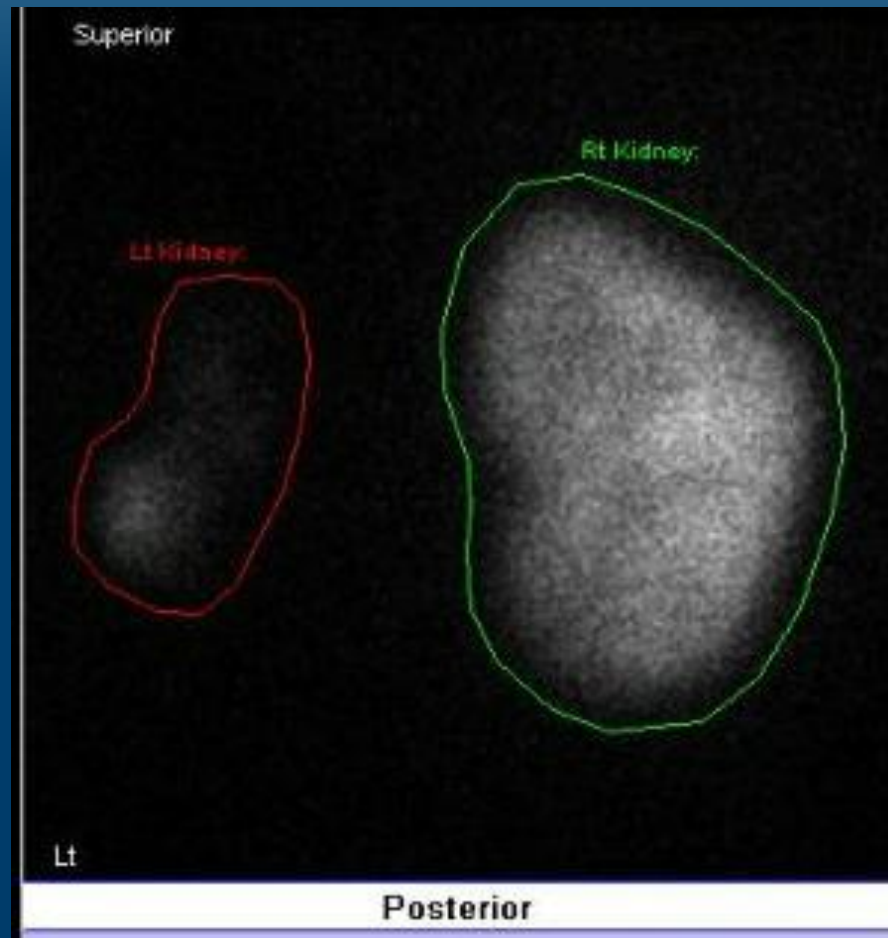
- CIC with no leakage
- Use of indwelling catheter at nite
- No infections
- Ultrasound normal



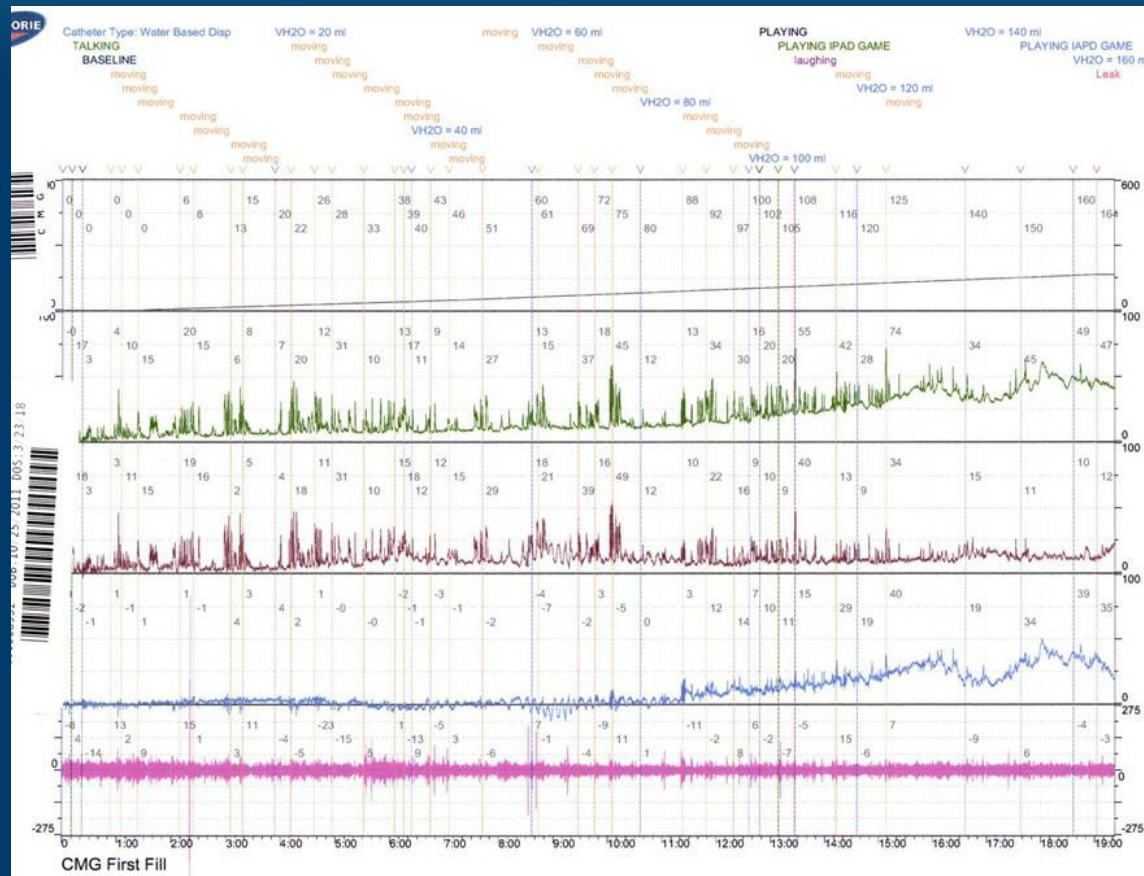
Bladder capacity : 110 cc
LPP: 40 cm H₂O

4 Years of age

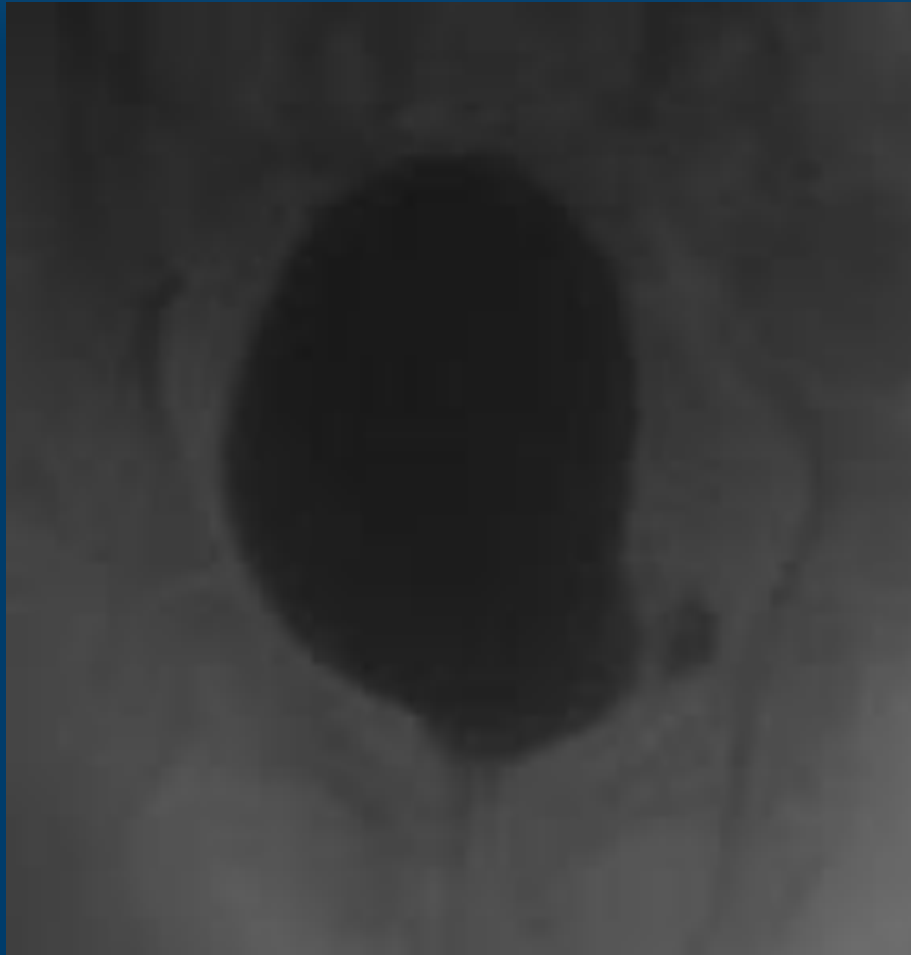
- No clinical change aside from interval febrile UTI (while out of state)
- Subsequent Ultrasound with poor growth of left kidney



Left: 8%
Right: 92%

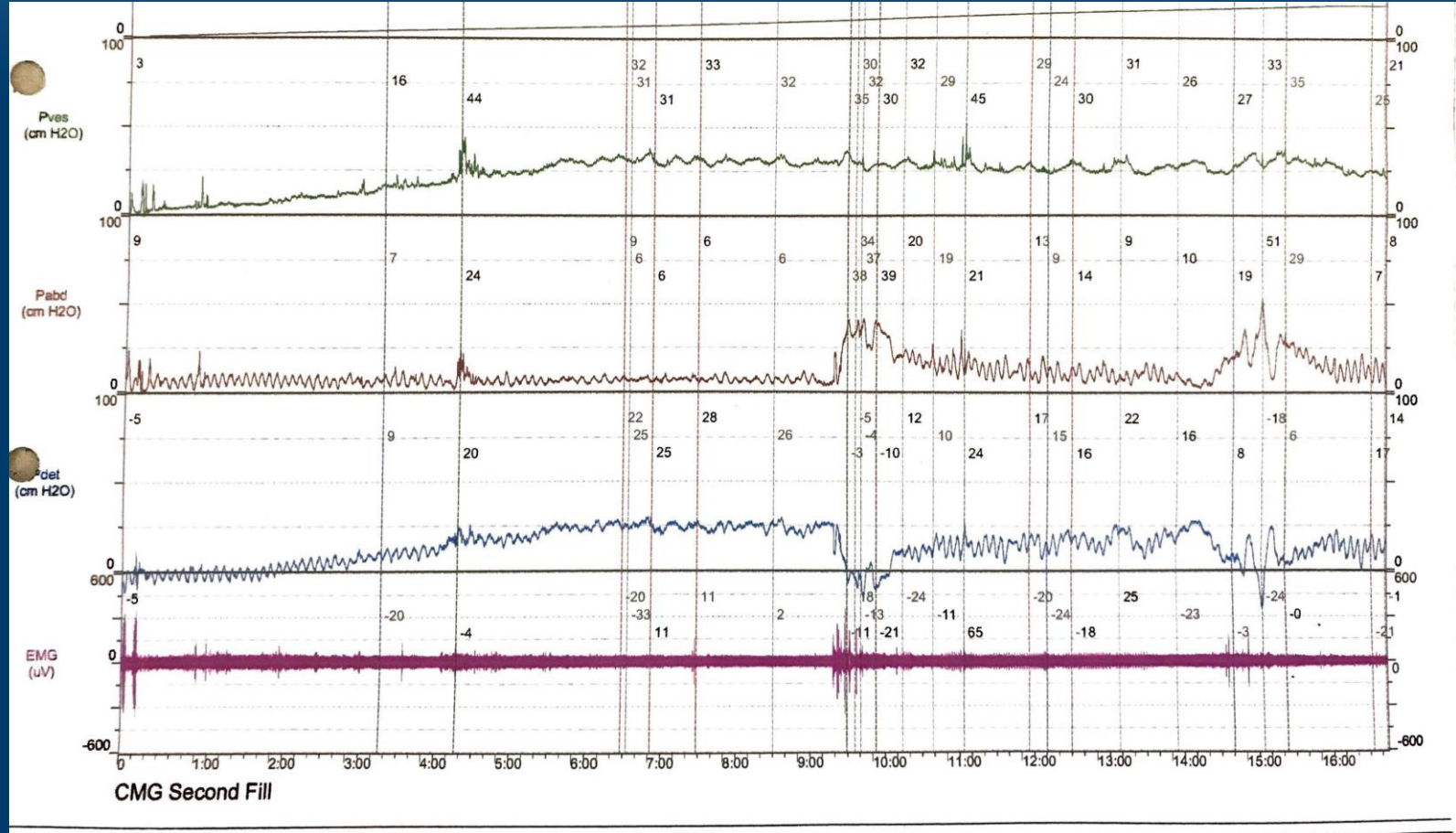


Bladder capacity: 160
LPP: 39 cm H2O



6 years of age

- No change from a urologic standpoint other than periodic botox injections
- Bladder moderately trabeculated on endoscopy
- Tethered cord release
- Shunt revision



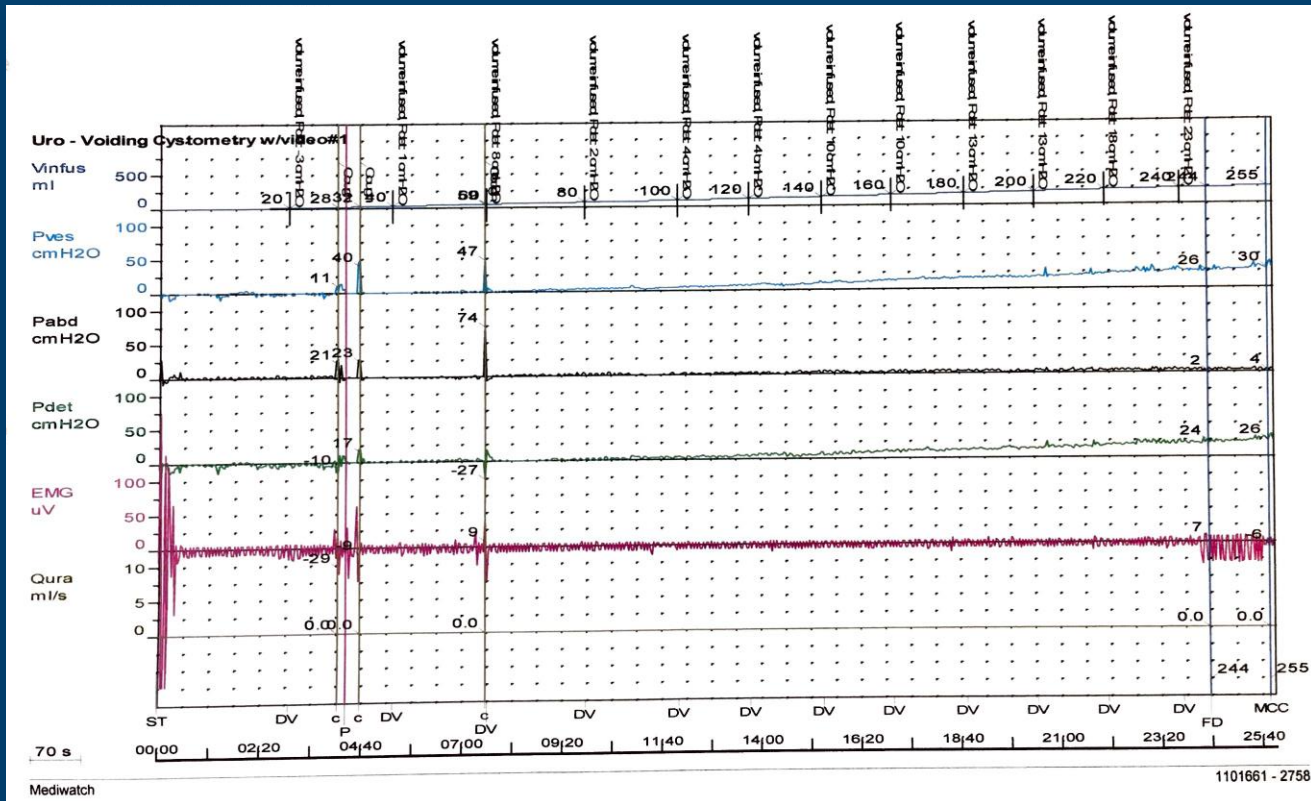
Bladder capacity: 120 cc
LPP: 35 cm H₂O

NEW CASE

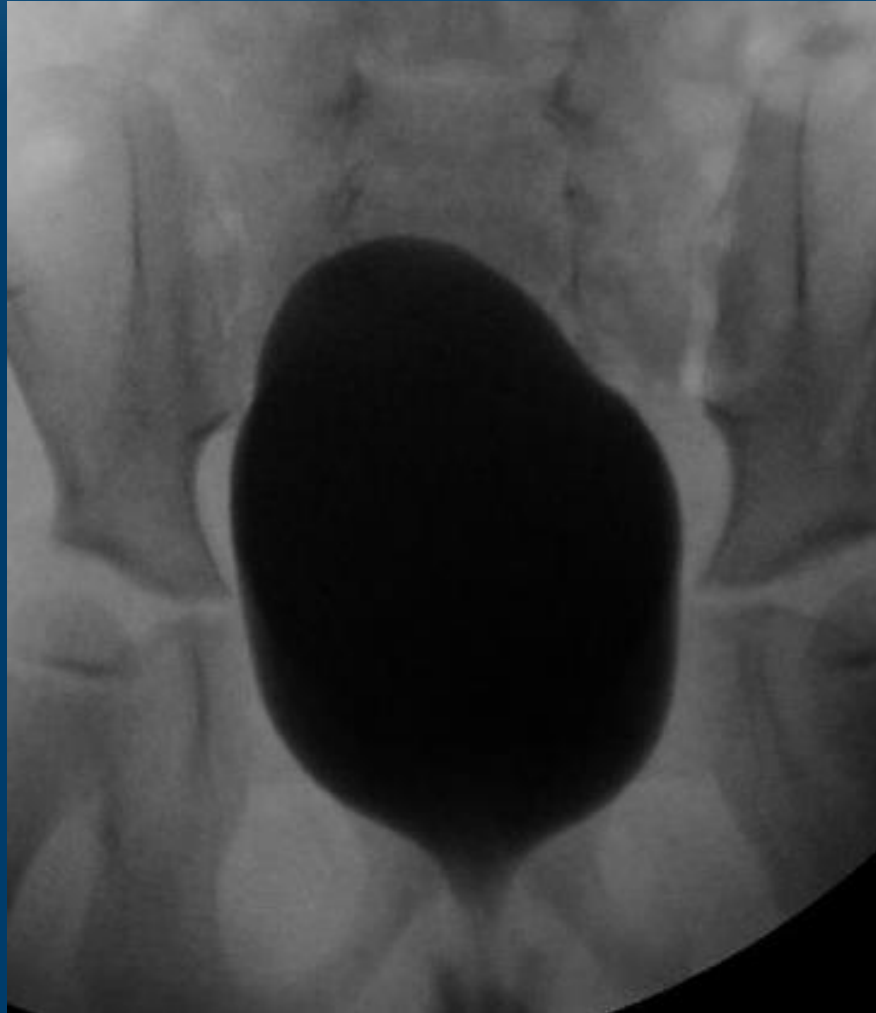


6 year old

- Lumbosacral SB closed post nately
- Shunted
- Wet on CIC q 3 hours on maximum oxybutinin
- Dry of stool with retrograde enemas
- No infections
- Normal ultrasound



Bladder capacity: 250cc
LPP: 24

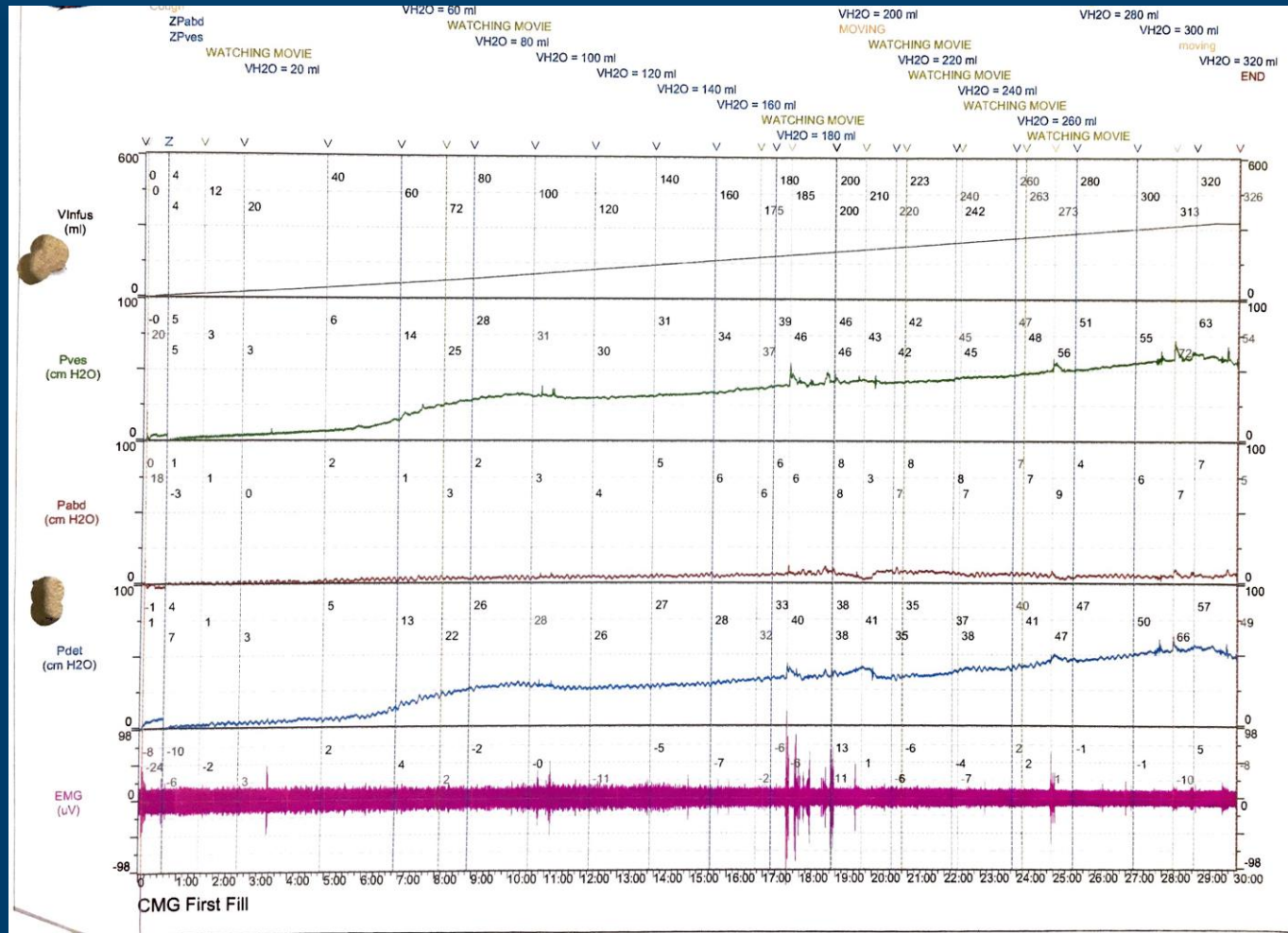


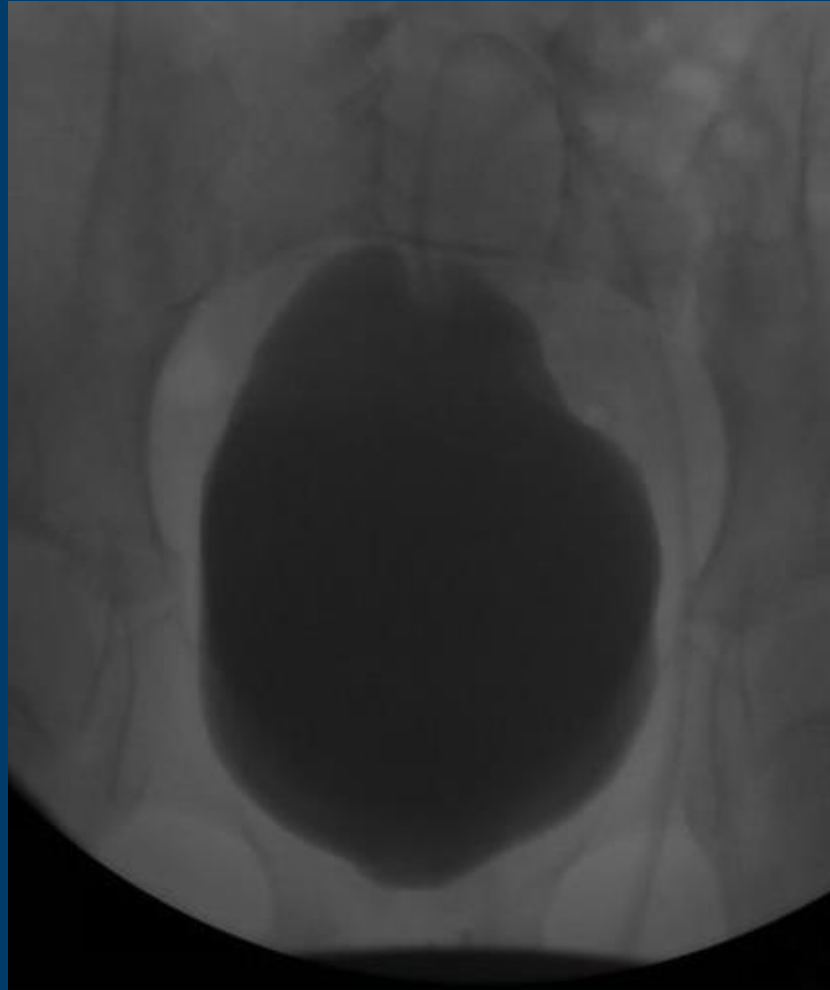
Surgery

- Bladder neck reconstruction with modified Mitchell BNR with sling
- Family offered concomitant augmentation but declined
- Mitrofanoff

4 months post -op

- New onset leakage per Mitrafanoff – minimal
- Ultrasound normal





9 months post -op

- Worsening leakage through Mitrofanoff and minimal leakage per urethra
- No infections

