Home Bladder Manometry Predicts Urodynamic Intravesical Pressure and Hydronephrosis

Joshua Chamberlin, Carol Davis-Dao, Amanda Macaraeg, Linda Beqaj, Ahmed Abdelhalim, Ranim Mahmoud, Heidi Stephany, Kai-wen Chuang, Irene McAleer, Elias Wehbi and Antoine Khoury

UCI Department of Urology

LOMA LINDA UNIVERSITY
CHILDREN'S HOSPITAL

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Disclosures

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Introduction

- Patients with neurogenic bladder are at risk for elevated bladder pressures and renal deterioration

- Objective: to evaluate the ability of home bladder manometry to help identify patients with an elevated bladder pressure and progressive hydronephrosis

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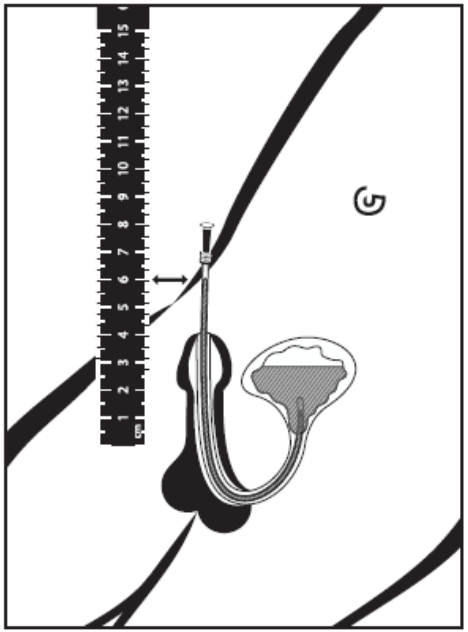
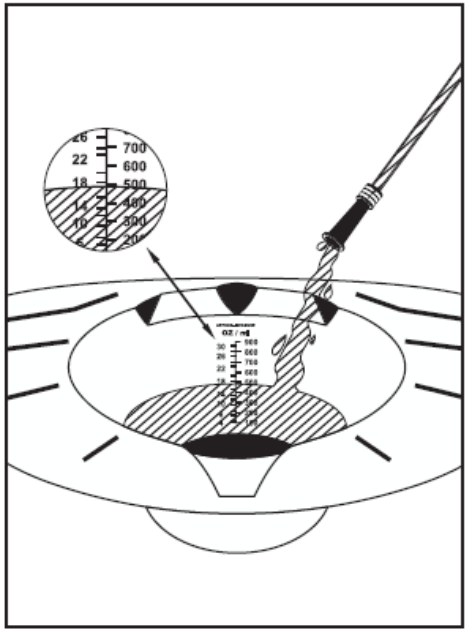
Home Bladder Manometry

Bladder Pressure



Bladder Volume



Pressure/Volume Diary

Date	Time	Pressure (cm)	Amount voided (Please lable if cups, ounces, ml, cc, etc.)
July 1	8:00 am	6 cm	250 ml
July 1	11:30 am	12 cm	300 ml
July 1	4:00 am	10 cm	250 ml
July 2	8:30 am	14 cm	300 ml
July 2	12:00 pm	15 cm	350 ml
July 2	5:00 pm	12 cm	250 ml

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Methods

- Prospective collected home manometry (n = 50)
- Children with spina bifida/neurogenic bladder on CIC
- Compared to UDS and RBUS
  - Detrusor pressure at 50% and 85% of maximum cystometric capacity (MCC)
  - Progression of hydronephrosis

- VUR IV/V excluded

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Methods

- ROC curves and AUC used to correlate home bladder manometry pressures with UDS intravesical pressures and hydronephrosis
- Safe UDS findings:
  - P_{det} at 50% MCC < 20 cm H_2O
  - P_{det} at 85% MCC < 40 cm H_2O
- Safe RBUS findings:
  - Absence of high grade hydronephrosis (SFU grade III/IV)

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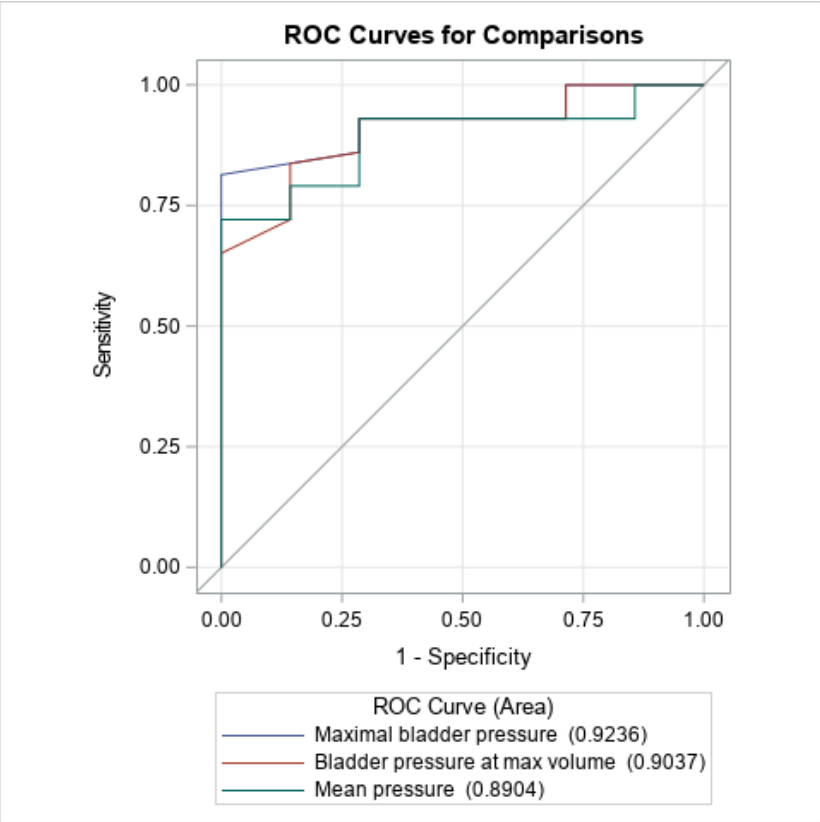
Home Manometry Predicts UDS Detrusor Pressure



Home manometry

< 20 cm H_2O predicts safe UDS pressures

Sensitivity	86%
Specificity	81%

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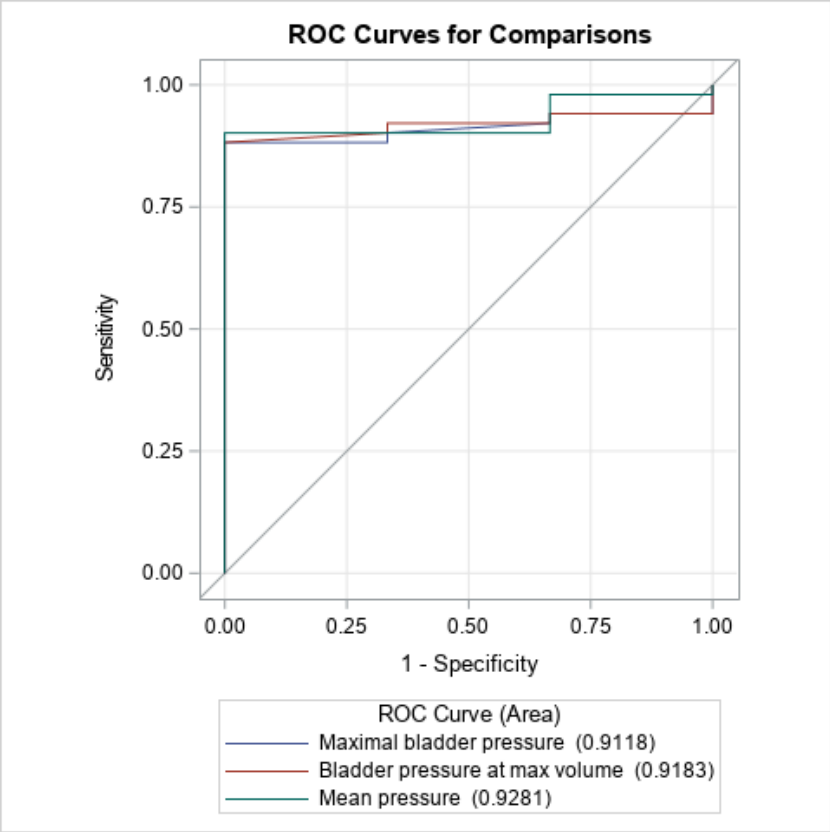
Home Manometry Predicts High Grade Hydronephrosis



Home manometry

< 20 cm H_2O predicts no hydronephrosis progression

Sensitivity	100%
Specificity	76%

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Conclusions

- Elevated home manometry strongly correlates with increased urodynamic intravesical pressures and high-grade hydronephrosis
- Home manometry may be use as screening tool for NGB on CIC to identify need for more aggressive management and evaluation

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