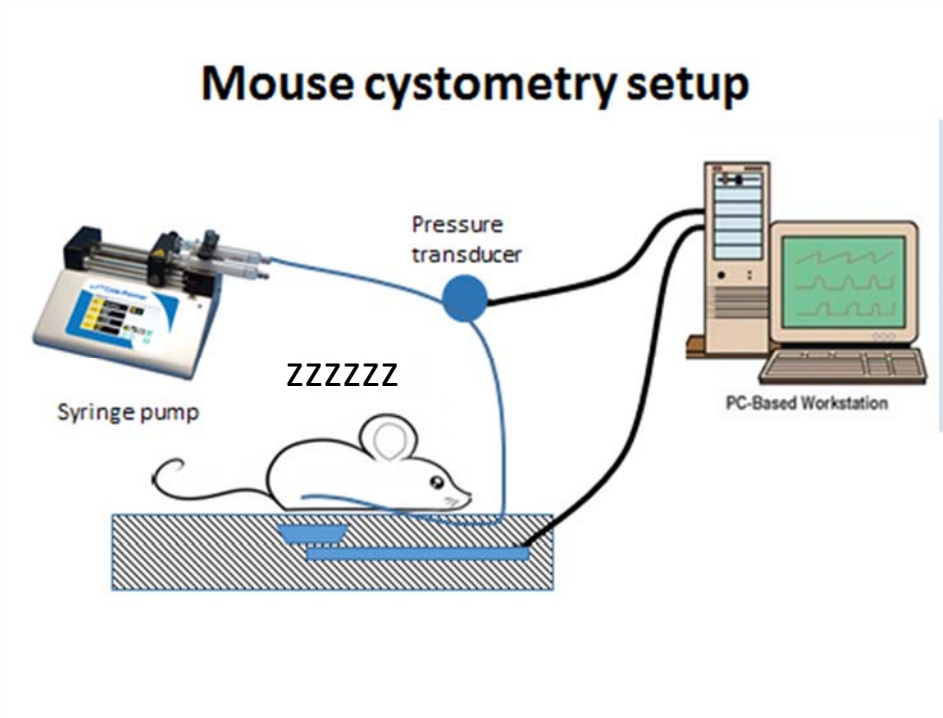
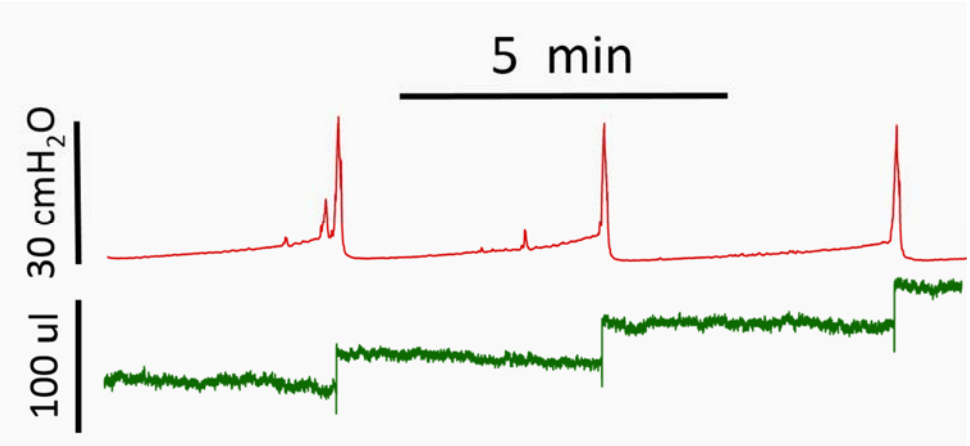
O'Brien Center For Benign Urologic Research
UW-Madison • UMASS Boston

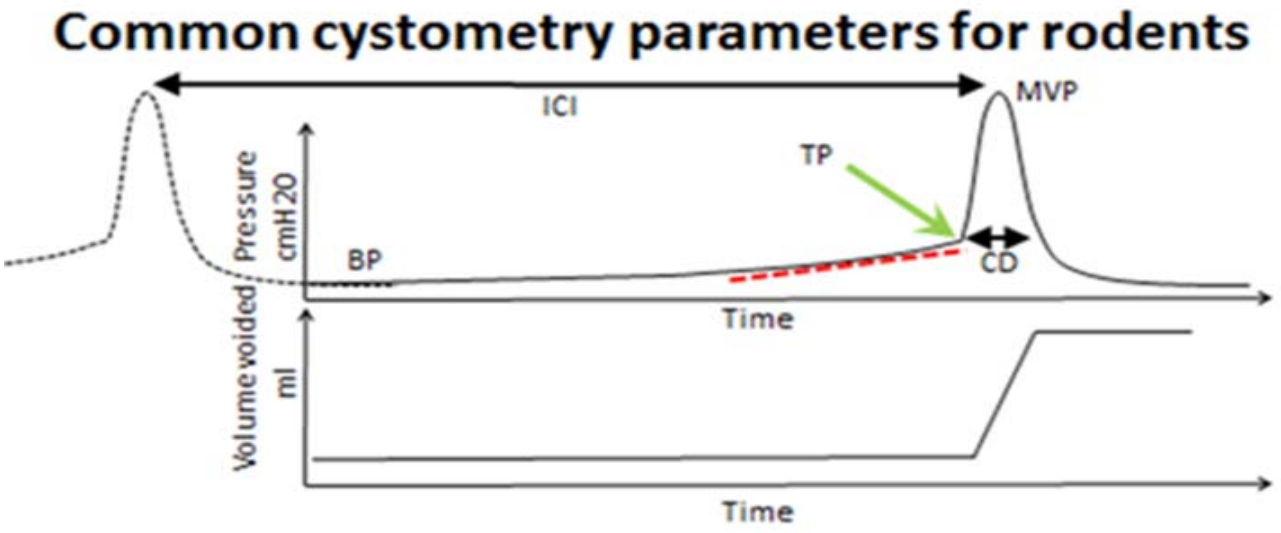
ANALYSIS OF CYSTOMETRY TRACINGS





For more information contact: Dale Bjorling
School of Veterinary Medicine
2015 Linden Drive, Madison, WI 53706
Phone: (608) 263-4808
dale.bjorling@wisc.edu
www.urology.wisc.edu/research/u54-george-m-obrien-center-for-benign-urology-research/

Advancing Urologic Health Through Research



Pressures – **note: pressure can be recorded in cm H_2O or mm Hg**

- Baseline – BP (low constant pressure after completion of void)
- Threshold – TP (pressure associated with rapid rise toward maximal pressure)
- Urethral Opening (pressure at which urine flow begins)
- Maximal Voiding Pressure – MVP (peak intravesical pressure generated during void)

Time Variables

- Inter-contractile Interval – ICI (time between points of maximal contraction)
- Contraction duration – CD (time between threshold pressure and return to baseline pressure)
- Void Duration – time from beginning to end of void

Volume

- Bladder Capacity – typically refers to volume required to initiate a voiding event
- Threshold – volume at which threshold pressure initiated
- Voided Volume – volume expelled from bladder during discrete voiding event
- Residual Volume – volume remaining in bladder after discrete void

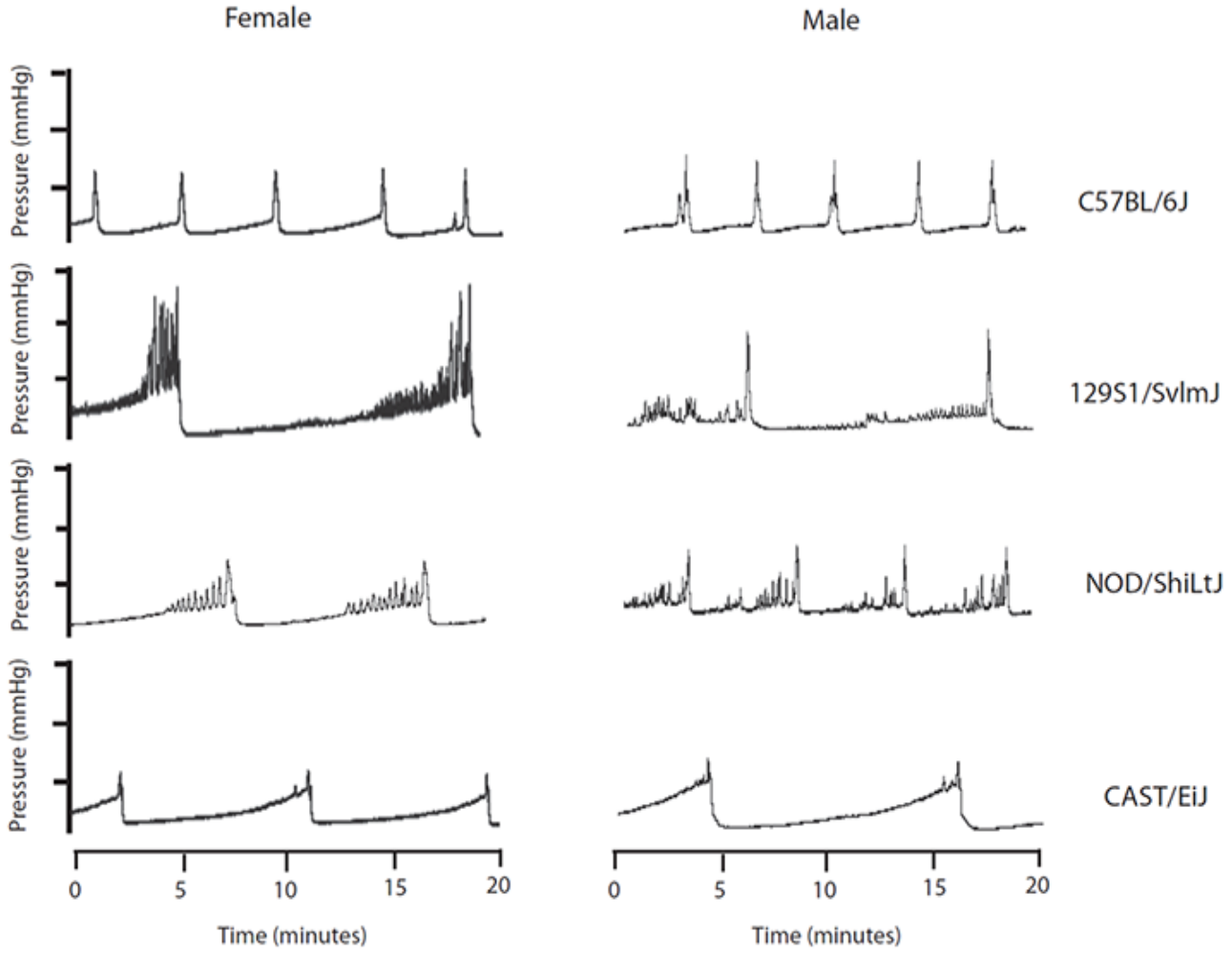
Other

- Flow Rate – rate at which fluid expelled through urethra during void
- Non-Voiding Contractions – acute fluctuation in pressure of arbitrary magnitude (typically set at 5-10 mm Hg or cm H_2O)
- Compliance – change in volume divided by the rise in pressure typically measured immediately prior to reaching Threshold Pressure (red dotted line; delta volume/delta pressure)
- Voiding Efficiency - % of bladder capacity voided (void volume/bladder capacity x 100)

For more information contact: Dale Bjorling
School of Veterinary Medicine
2015 Linden Drive, Madison, WI 53706
Phone: (608) 263-4808
dale.bjorling@wisc.edu
www.urology.wisc.edu/research/u54-george-m-obrien-center-for-benign-urology-research/

O'Brien Center For
Benign Urologic Research
UW-Madison • UMASS Boston

Strain and Gender Variability



Results of anesthetized cystometry performed in normal 12 week old male and female mice of 4 strains. Note significant variation among strains and between genders in 129S1/SvlmJ mice. The fluctuations in pressure preceding voiding in 129S1/SvlmJ and Nod/ShiLtJ mice could be considered non-voiding contractions. However, in the presence of inflammation or over-active bladder, non-voiding contractions tend to be sporadic rather than rhythmic, as is the case in these tracings. (From: Bjorling et al. Am J Physiol Renal Physiol 2015;308:F1369.)

For more information contact: Dale Bjorling
School of Veterinary Medicine
2015 Linden Drive, Madison, WI 53706
Phone: (608) 263-4808
dale.bjorling@wisc.edu
www.urology.wisc.edu/research/u54-george-m-obrien-center-for-benign-urology-research/

Advancing Urologic Health Through Research