ABSTRACT
The urothelium contributes to bladder function by communicating with the central nervous system via afferent nerves. Acute injury, such as, spinal cord transection results in altered bladder urothelial barrier function, modification of the urothelium and/or loss of epithelial integrity.\(^1\,2,3\) We determined the effect of progressively more extensive decentralization surgeries on the frequency of urinary tract infections (UTIs) and the role of urothelial reactive oxygen species (ROS)-generating NADPH oxidase (Nox) enzymes.

METHODS
- **Decentralization surgeries:**
  - **Group 1** (N=6): all dorsal and ventral sacral spinal roots and the hypogastric nerves
  - **Group 2** (N=7): all dorsal and ventral sacral spinal roots, the L7 dorsal roots and hypogastric nerves
  - **Group 3** (N=8): all dorsal and ventral sacral spinal roots, the dorsal roots of L6 and L7 and the hypogastric nerves.

RESULTS
- **Parameter**: Group 1, Group 2, Group 3
  - **# of animals/group**: 6, 7, 8
  - **# of animals having UTIs/group**: None, 4, 6

CONCLUSIONS
- Progressively increased bladder de-afferentation predisposes to UTIs.
- The mechanism may involve Nox-driven superoxide redox processes.
- Infection induced inflammation increase ROS production in the bladder mucosa.
- Sympathetic bladder innervation has no apparent effect on susceptibility to UTIs.

REFERENCES