

H. KODAMA, H. YOSHIMURA, Y. NAGATA, J. YU, K. HUANG. **Use of an ultrasonic urine sensor (Yuririn USH-059) in sitting posture.** *Gerontechnology* 2012;11(2):253; doi:10.4017/gt.2012.11.02.461.00

Purpose Reliable data for use by medical specialists have been obtained with the supine posture¹ on an ultrasonic urine sensor (US sensor) Yuririn USH-059²⁻⁴. Although for the reliable medical use the supine posture is necessary, this should be extended to other postures of daily life if it is to serve older people suffering from urine incontinence, but whose other physical and mental functions are mostly fine. The scope of this work is to evaluate the sensor in sitting position. **Method** The participant of the experiment was one of the authors, a 63-year-old, he tested the device for 37 continuous days in the morning. Using the sensor he measured his bladder every morning by himself from the abdominal surface. The protocol included four measurements. Two measurements were taken respectively in supine position on bed, and sitting on lavatory seat prior to emptying the bladder; weighing was done with a urine bottle and a scale. After urination, evacuation of the bladder was confirmed by two measurements: sitting on lavatory seat and supine on bed. Measurement whilst sitting on the lavatory seat required a careful relaxation of abdomen by means of leaning back to the seat. From the preparation of the US sensor measurements to the cleaning of the urine bottle took roughly two hours. **Results & Discussion** Results for the posture sitting on lavatory seat were compared to the data of the supine position on a bed (*Figure 1*), the correlation coefficient was 0.739 and maximum residual 21.6ml. Although a careful relaxation of abdomen is necessary, it seems posture for the sensor need not be restricted to supine. The compact size of the sensor, and a wider application of the ultrasonic urine sensor, is expected to improve the daily life for users or patients with various advanced technological aids.

References

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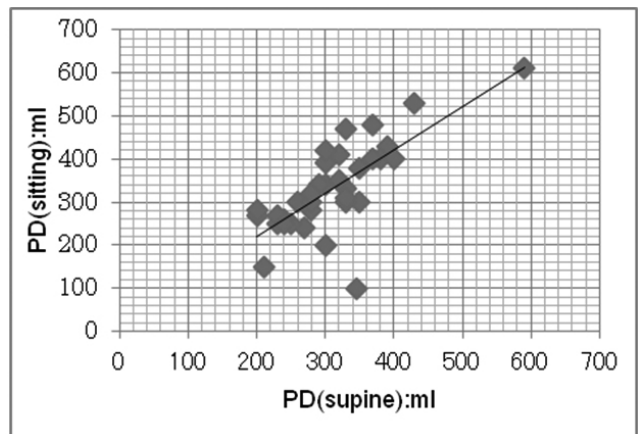


Figure 1. Comparison of Measurement Posture : PDs are measurement values by the ultrasonic urine sensor