

H. Kodama, H. Yoshimura, Y. Nagata, J. Yu, K. Huang. *Application of an ultrasonic urine sensor to an older person in sitting posture. Gerontechnology 2010;9(2):297;*

doi:10.4017/gt.2010.09.02.141.00 **Purpose** With the measurement posture to be supine in order to assure reliable data, we developed an ultrasonic urine sensor for use by medical sepcialits¹. Although the restriction of the posture is necessary for reliable medical use, it might be extended to other postures of daily life, serving older people who suffer from urine incontinence, but have no other physical or mental functioning problems. We did thirty-seven days of continuous experimentation in the morning for an older person. The result was very encouraging. **Method** The subject of the experiment was one of the authors, 63 years old during the experiment. He measured his bladder every morning by himself from abdominal surface using the ultrasonic urine sensor. The protocol included four measurements. Two measurements were taken respectively in supine on bed and sitting on the lavatory seat prior to voiding urine which was weighed by a urine bottle and a balance. After voiding, evacuation of the bladder was confirmed by two measurements sitting on the lavatory seat and supine on the bed. Measurement sitting on the lavatory seat required a careful relaxation of the abdomen by means of leaning back in the seat. From the preparation of the ultrasonic urine sensor measurements to the cleaning of the urine bottle took about two hours. **Results & Discussion** Results for the posture sitting on lavatory seat were compared to the data supine on bed (*Figure 1*). Although a careful relaxation of abdomen is necessary, it seemed to be reasonable to avoid the restriction of the posture. In addition to the compact size, the application of the ultrasonic urine sensor is expected to aid the daily life with various advanced technological aids.

References

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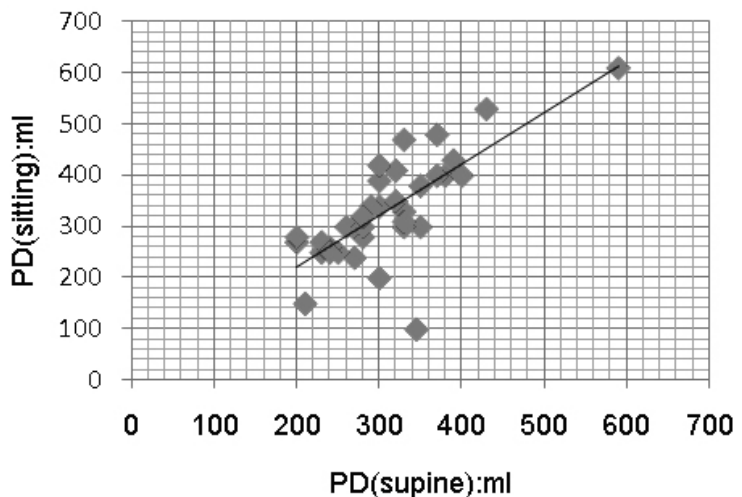


Figure 1. Comparison of Measurement Postures. PD is a measurement value by ultrasonic urine sensor