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Voiding pattern and acquisition of bladder control from birth to age 6 years--a longitudinal study.

Jansson UB, **Hanson M**, **Sillén U**, **Hellström AL**.

Department of Surgery, Queen Silvia Children's Hospital and Sahlgrenska Academy, Göteborg, Sweden. ullabritt.jansson@vgregion.se

PURPOSE: We describe the voiding pattern and acquisition of bladder control in healthy children up to age 6 years. MATERIALS AND METHODS: We determined age for daytime and nighttime dryness, voiding patterns, voiding volumes and post-void residual volume per 4 hours individually and noninvasively every 3 months up to age 3 years and every 6 months up to age 6 years in 36 female and 23 male patients using 4-hour voiding observation and uroflowmetry/ultrasound. RESULTS: Median age for attaining daytime and nighttime dryness was 3.5 and 4 years, respectively. No significant difference was found between girls and boys. All but 1 child attained daytime dryness an average of 10 months before attaining nighttime dryness. Bladder sensation was reported in 31%, 79% and 100% of patients at ages 2, 3 and 4 years, respectively. Median bladder capacity was 67 ml, 123 ml and 140 ml at years 1, 3 and 6, respectively. Median post-void residual volume was 5.5 ml, 0 ml and 2 ml at ages 1, 3 and 6 years, respectively. CONCLUSIONS: Today bladder control is acquired at a later stage despite earlier awareness of bladder function. The occurrence of bladder sensation from age 1.5 years motivates an earlier start with toilet training. Infants with small post-void residual volume at age 6 months or large bladder capacity will probably attain daytime dryness earlier than those with large post-void residual volume at age 6 months or small bladder capacity.

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