The aim of this study was to assess the effects of voluntary pelvic floor contraction and voluntary pelvic floor relaxation on the urethral closure pressure at rest. In 104 consecutive women, three urethral pressure profiles were performed: standard profile at rest, with voluntary pelvic floor contraction and with voluntary pelvic floor relaxation. A low-pressure urethra was defined as a maximum urethral closure pressure of ≤ 20 cmH(2)O. The age ranged between 24 and 82 years. The maximum urethral closure pressure at rest was significantly augmented during pelvic floor contraction (mean: 18 cmH(2)O). Compared with the first profile, it decreased significantly with pelvic floor relaxation (mean decrement: 8 cmH(2)O). A low-pressure urethra was detected in 5 women during the first profile and in a further 11 during pelvic floor relaxation. Because of the significant influence of pelvic floor activity on the urethral closure pressure at rest, the scientific and clinical credibility of urethral pressure measurements remain questionable.