**Objectives:** Slip-resistant shoes (SRS) may have a positive effect on reducing the risk of slips and falls. Few studies, however, have examined how duration of shoe usage affects their slip-resistance properties. This study examined the association between the duration of SRS usage and the self-reported rate of slipping in limited-service restaurant workers.

**Methods:** Four hundred and seventy five workers from 36 limited-service restaurants were recruited to participate in a 12-week prospective study of workplace slipping. At baseline, information on slip-resistant status of the shoes and duration of the shoe usage was collected. Participants reported their slip experience weekly for up to 12 weeks. Eighty three out of 475 participants reported changing to new shoes at least once during the 12 week follow-up.

**Results:** The results show that use of SRS for 6 months or less was associated with a 58% reduction in the reported rate of slipping (RR = 0.42, 95% CI 0.28 to 0.64). Use of slip-resistant shoes for more than 6 months was marginally associated ($p = 0.06$) with a reduction in the reported rate of slipping. Change of shoes among those wearing SRS was associated with 55% reduction in the rate of slipping (95% CI 11% to 77%).

**Conclusions:** The results suggest that duration of shoe usage has a significant effect on the slip-resistance property of the slip-resistant shoes. Employers’ shoe policy should not only encourage workers to wear slip-resistant shoes but also include guidance on change to new shoes at the appropriate time or regular interval.