The objective of the present study was to determine the heart rate recovery index (HRRI), a marker of autonomic nervous system function in patients with endemic fluorosis. Forty patients with endemic fluorosis (16 men/24 women) and 40 age-, sex-, and body mass index-matched healthy controls (16 men/24 women) with normal fluoride intake were enrolled in this study. HRRI was calculated by subtracting the heart rate values at the first, second, and third minutes of the recovery phase from the peak heart rate (HRRI 1, HRRI 2, HRRI 3). Urine fluoride levels of fluorosis patients were significantly (P < 0.001) higher than control subjects as expected. HRRI 2 was significantly lower in fluorosis patients than in the controls. The incidence of abnormal HRRI 1 was significantly higher in fluorosis patients than in the controls (P < 0.05). We observed that HRRI, a marker of autonomic nervous system function, is impaired in patients with chronic fluorosis.