PURPOSE. Occlusal splints are commonly used to prevent tooth wear caused by bruxism. However, the effects of splints on occlusion are still unclear. Although it is rarely alluded in literature, splints can provoke severe occlusal alterations and other complications. This study was aimed to identify differences in the responses of individuals with bruxism and healthy individuals to a full-arch maxillary stabilization splint in terms of occlusal changes. MATERIALS AND METHODS. Occlusal contacts in 20 (5 male, 15 female) bruxism patients and 20 (5 male, 15 female) controls with normal occlusion were evaluated before and after occlusal splint therapy. T-Scan III, a computerized occlusal analysis system, was used to simultaneously measure occlusion and disclusion times as well as left-right and anterior-posterior contact distributions before splint therapy and 3 months after therapy. Wilcoxon and Mann-Whitney U tests were used for statistical analyses (α=.05). RESULTS. No differences were found in the posterior contact of bruxism patients before and after stabilization splint treatment. However, differences in posterior contact were observed between bruxists and normal individuals prior to treatment, and this difference disappeared following treatment. CONCLUSION. The results of this study showed the use of a stabilization splint may not have an effect on occlusion. However, the area of posterior occlusal contact among bruxists was found to be greater than that of normal individuals. According to this study, the clinical use of splints may be harmless. [ J Adv Prosthodont 2013;5:256-61]