

A Prospective Multicenter Clinical Study of the Osseotite Implant: Four-Year Interim Report

Tiziano Testori, MD, DDS/Lorne Wiseman, BSc, DDS, FACD/Spencer Woolfe, LDS, RCSI, MS/Stephan S. Porter, DDS, MSD, MS

This article reports the 4-year interim results of a multicenter study evaluating the clinical performance of the Osseotite dental implant. At 4 study centers, 485 Osseotite implants were consecutively placed in 181 patients (219 were placed in the mandible and 266 in the maxilla). A total of 355 implants were placed in posterior regions. Short implants (10 mm or less) represented 31.5% (n = 153) of all implants placed in this study. Patients were restored with 210 restorations, distributed as 123 short-span prostheses, 58 single-tooth replacements, 28 long-span prostheses, and 1 maxillary overdenture. At this 4-year interim evaluation, the mean time from implant placement to the most recent evaluation was 52.6 ± 3.0 months, with a mean loading time of 43.3 ± 3.8 months. Of the 485 implants placed, there have been 6 failures. All implant failures occurred prior to loading and were categorized as early implant failures. Five of the 6 failures occurred in the maxilla. Only one of the 153 short implants failed to integrate. Baseline radiographs were obtained at prosthesis connection. Radiographic analysis 1 year post-restoration showed a mean bone loss of 0.09 ± 0.7 mm. From baseline to the end of the second year of function, an overall mean bone loss of 0.13 ± 0.8 mm was recorded, indicating no additional bone was lost after the first year of implant function. At 4 years, the cumulative implant success rate for all implants placed in this study was 98.7%, with a 99.4% success rate in the posterior mandible and 98.4% success rate in the posterior maxilla. Results of this 4-year interim analysis indicate that this implant achieved a high success rate in posterior regions and that all failures with this implant in this patient population occurred prior to implant loading. When the clinical success of implants 10 mm or shorter was compared to that of implants greater than 10 mm in length, the shorter implants in this study performed similarly to longer implants. INT J ORAL MAXILLOFAC IMPLANTS 2001;16(2):193–200.