

Length, diameter, time – which factors affect treatment successes with CAMLOG® implants?

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Länge, Durchmesser, Zeit – welche Faktoren beeinflussen den Behandlungserfolg mit CAMLOG® Implantaten? Logo 2011;25:6-7

SUMMARY: High rate of treatment successes over a period of up to seven years with various implant diameters and lengths as well as different implantation and loading times.

Introduction

Immediate implantation? Immediate loading? Which diameter and length? Questions about treatment procedures are not always easy to answer. Esthetics and function play an important role on the one hand and on the other, the factor of time. Treatment successes when using CAMLOG® implants have been documented for various treatment approaches, various indications and over a period of up to seven years. The aim of this document is to provide an overview of current studies.

Selected studies

Treatment successes with all diameters...: Krennmair et al. (2010) studied the treatment successes of CAMLOG® implants based on diameters [1]. The cumulative success rates after five years were 96.2% for 3.8 mm implants, 98.6% for 4.3 mm implants and 99.0% for 5.0 and 6.0 mm implants. Prosthetic follow-ups were required in just a few cases. The patients were satisfied with the treatments and in a scale from 1 to 5 (5 being the highest degree of satisfaction), indicated an average degree of satisfaction of 4.8. The study included a total of 541 implants (immediate implantation: N=6; 6–8 weeks after extraction: N=116; >8 weeks after extraction: N=409).

... and lengths: Strietzel & Reichart (2007) studied treatment successes with CAMLOG® implants in different lengths [2]. They did not observe any significant differences between short and long implants. The average survival rate of 325 implants examined (long and short) was 98.5% over a maximum period of 55 months.

The right time: An ever-debated topic in implant dentistry is the right time for implantation after tooth extraction and when to put a load on the implant [3, 4].

In various studies with observation times of up to seven years, this topic was also studied when using CAMLOG® implants. In a retrospective study by Zafiroopoulos et al. (2010), no difference was observed over a period of five years in the implant survival rate depending on the time of

implantation, implant type or time to loading [5]. The study included the results from 241 implants in 241 patients. These results were confirmed by Lange et al. (2010) [6]. They studied the treatment success of 774 implants, some with immediate loading, others with delayed loading and each with implantation in fresh or already healed extraction sites. The authors concluded, that individual risk factors (e.g., smoking, inflammation, endodontic treatments) are much more critical to success rates than the times of implantation and loading.

Siebers et al. (2010) also studied this topic in 76 patients with a total of 222 implants over a period of up to seven years. They achieved a treatment success of 100% for implants placed after the extraction sites had healed. For immediate implantation and immediate loading, treatment success was 91.3% and for immediately implantation with delayed loading 98.5% [7].

Reduced healing times Two studies examined treatment success with CAMLOG® implants with reduced healing times (6 weeks in the mandible, 12 weeks in the maxilla). After 3.75 years on average, Nelson et al. (2008) observed a treatment success rate of 99.4% [8]; after six years, Semper et al. (2007) even achieved a success rate of 99.8% [9]. In both studies, implants with sand-blasted and etched surfaces were examined. The success rates were confirmed based on criteria defined by Buser et al. (2002) [10]: no mobility, no apical translucency, no pain or other signs of persistent or irreversible symptoms, no peri-implant inflammation.

High success rates and positive results: Ozcan et al. (2007, 2011) were also able to show excellent implant survival rates over a period of three and five years [11, 12]. The authors examined CAMLOG® implants together with various other implant systems. Implant survival rates after three or five years for CAMLOG® implants were 100% – in both studies, only one implant of a different brand was lost. The authors observed no significant differences between the used implant systems and concluded that they lead to positive treatment successes.

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Results confirmed in everyday practice: The reproducibility of these results in everyday practice was confirmed by Franchini et al. (2011) [13]. With CAMLOG® implants, they achieved a success rate of 99.5% over an observation period of at least one year after loading and up to 78 months. Treatment successes were independent of the times of implantation or loading, as well as of implant lengths. In total, data from 96 patients with 201 implants in different indications were analyzed; 158 were placed in partially edentulous patients, 49 in single tooth gaps.

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Conclusions

The use of CAMLOG® implants in various indications has been scientifically documented. Excellent implant survival rates and treatment successes with very good predictability have been observed in studies. In this article, the use of CAMLOG® implants in partially edentulous patients in the maxilla and mandible at various lengths and diameters, as well as different implantation and loading times has been systematically reported.

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