

# Effectiveness of implant therapy in Sweden

Akademisk avhandling

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av

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- I. **Derks J**, Håkansson J, Wennström JL, Klinge B, Berglundh T (2015). Patient-reported outcomes of dental implant therapy in a large randomly selected sample. *Clin Oral Implants Res* 26:586-591.
- II. **Derks J**, Håkansson J, Wennström JL, Tomasi C, Larsson M, Berglundh T (2015). Effectiveness of implant therapy analyzed in a Swedish population: early and late implant loss. *J Dent Res* 94 Suppl 3:44-51.
- III. **Derks J**, Schaller D, Håkansson J, Wennström JL, Tomasi C, Berglundh T (2015). Effectiveness of implant therapy analyzed in a Swedish population: prevalence of peri-implantitis. *J Dent Res* accepted for publication.
- IV. **Derks J**, Schaller D, Håkansson J, Wennström JL, Tomasi C, Berglundh T (2015). Peri-implantitis - onset and pattern of progression. *Manuscript*.



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# Abstract

## Effectiveness of implant therapy in Sweden

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Dental implants are commonly used in restorative therapy in patients with partial or full edentulism. Knowledge regarding the outcome of this kind of treatment has been limited to evaluations of efficacy, i.e. therapy performed under optimal conditions. The current series of studies evaluated effectiveness of dental implant therapy including patient-reported outcomes, the occurrence of implant loss as well as peri-implantitis.

Using the national data registry of the Swedish Social Insurance Agency, 4,716 patients were randomly selected. All had been provided with implant-supported restorations in 2003/2004. Patient-reported outcomes were analyzed by questionnaire 6 years after completion of therapy (**Study I**). Patient files of 2,765 patients were collected from more than 800 clinicians. Information on patients, treatment procedures, and outcomes related to the implant-supported restorative therapy was extracted from the files. 596 of the 2,765 subjects attended a clinical examination 9 years after therapy. Early implant loss was assessed in patient files, while late implant loss was recorded at the clinical examination (**Study II**). The prevalence of peri-implantitis was determined from clinical and radiographic data collected at the 9-year examination (**Study III**). Radiographs obtained from the patient files were used to evaluate the onset and pattern of progression of peri-implantitis (**Study IV**).

It was demonstrated that:

- the overall patient satisfaction was high but influenced by (i) age and gender of the patient, (ii) the extent of restorative therapy and (iii) the training of the clinician performing the treatment (**Study I**).
- implant loss occurred in 7.6% of all patients over a follow-up of 9 years; patient and implant characteristics influenced the outcome (**Study II**).
- 14.5% of all patients exhibited moderate/severe peri-implantitis, and several patient- and implant-related characteristics were identified as risk indicators (**Study III**).
- progression of peri-implantitis occurred in a non-linear, accelerating pattern, and, in the majority of cases, the onset of the disease had occurred early (**Study IV**).

**Key words:** dental implants, patient outcome assessment, implant loss, peri-implantitis, prevalence, risk factors.

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