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# A 4- to 5-Year Retrospective Clinical and Radiographic Study of Neoss Implants Placed with or without GBR Procedures

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## ABSTRACT

*Background:* New dental implant systems are continuously introduced to the market. It is important that clinicians report their experiences with these implants when used in different situations.

*Aim:* The study aims to report the outcomes from a retrospective study on Neoss implants when used with or without guided bone regeneration (GBR) procedures.

*Materials and Methods:* The study group comprised of 50 consecutive patients previously treated with 183 Neoss implants (Neoss Ltd., Harrogate, UK) in 53 sites because of single, partial, or total tooth loss. Implants were placed in healed bone in 23 sites, while a GBR procedure was used in 30 sites in conjunction with implant placement. A healing period of 3 to 6 months was utilized in 45 sites and in 8 sites a crown/bridge was fitted within a few days for immediate/early function. The number of failures, withdrawn and dropout implants was analyzed in a life-table. All available intraoral radiographs from baseline and annual check-ups were analyzed with regard to marginal bone level and bone loss.

*Results:* A cumulative survival rate (CSR) of 98.2% was found for the non-GBR group and 93.5% for the GBR group with an overall CSR of 95.0% after up to 5 years of loading. In spite of the failures, all patients received and maintained their prostheses. Based on all available radiographs, the bone level was situated  $1.3 \pm 0.8$  mm ( $n = 159$ ) below the top of the collar at baseline and  $1.7 \pm 0.8$  mm ( $n = 60$ ) after 5 years of follow-up. Based on paired baseline and 1-year ( $n = 70$ ) and 5-year radiographs ( $n = 59$ ), the bone loss was found to be  $0.4 \pm 0.9$  and  $0.4 \pm 0.9$  mm, respectively. There were no statistically significant differences between GBR and non-GBR sites with regard to implant survival or bone loss.

*Conclusions:* The Neoss implant system showed good clinical and radiographic results after up to 5 years in function.

**KEY WORDS:** clinical follow-up, dental implants, GBR, radiography, retrospective study

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