Latest Study shows 100% success with Straumann Bone Level implants

Survival rates at 36 months and minimal crestal bone resorption

<table>
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<th>Table 1: Mean and standard deviation values of the standard soft tissue parameters over 3-year follow-up period. The displayed values of KM and PM are in mm.</th>
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<td>3 mos.</td>
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<tr>
<td>mPLI</td>
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<td>mSBI</td>
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<td>PD</td>
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<td>KM</td>
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The esthetic parameters remained stable at high values between 12 and 36 months.

- **Mean PES**: 8.1
- **Mean WES**: 8.65
- **Total**: 16.75

**Figure 1**: Crestal bone change displayed by the mean DIB value (in mm) showing a remodelling pattern: the first 3 months and stable bone for the following months.

**Table 2**: The esthetic parameters remained stable at high values between 12 and 36 months.

provisional crowns were placed, which were gradually enlarged if necessary to optimize soft tissue contours. Final all-ceramic restorations were placed after six months.

- **Indication**: Single-tooth replacement in the anterior maxilla
- **Implant**: Bone Level Ø 4.1 mm SLActive®
- **Solution**: Screw-retained full-ceramic crown

The patients were recalled for several follow-up visits at various points in time. During these visits, various parameters were assessed such as:

- Modifed plaque index (mPLI)
- Modified sulcus bleeding index (mSBI)
- Probing depth (PD)
- Width of keratinized mucosa (KM)
- Distance from implant shoulder to the first bone-to-implant contact (DIB)
- Pink aesthetic score (PES)
- White aesthetic score (WES)

Within all measurements the day of re-opening was set as baseline (day 0).

**Results**

All 20 implants achieved and maintained successful tissue integration at the 5-year follow-up visits fulfilling strict success criteria.

**Standard soft tissue parameters**

- Standard soft tissue parameters such as mPLI, mSBI, PD and KM were assessed after 3, 6, 12 and 36 months from baseline. These parameters were assessed with the crown in place. Mean mPLI and mSBI values at 36 months were 0.40 and 0.20 respectively (Table 1). The mean PD value increased from 3.69 mm at the 3-month visit to 4.80 mm at the 56-month visit. However, the change was not statistically significant. A wide KM band was seen at three months, which remained stable at the following points in time (Table 1).

**Radiographic evaluation/DIB values**

Periapical radiographs were taken from baseline (BL) at every visit. The distance from implant shoulder to the first bone-to-implant contact was assessed (DIB). At baseline the mean DIB was 0 mm. It increased showing remodelling patterns from 5 to 6 and to 12 months with values of 0.09 mm, 0.14 mm and 0.18 mm, respectively. The mean value remained stable at 0.18 mm thereafter until 36 months (Figure 1).

**Frequency analysis of crestal bone**

Shed 18 patients had a bone loss of 0.5 mm or less after 5 years.

**Aesthetic parameters**

The maximum for both pink and white aesthetic scores is 10, and the threshold for clinical acceptability is 6/10 for each index. Mean PES and WES scores remained stable between 12 and 56 months with values of 8.10 and 8.65, respectively (total score of 16.75), indicating a favourable aesthetic outcome (see Table 2).

**Conclusions**

- **Strict success and survival criteria** were fulfilled resulting in 100 % success and survival rates at 56 months.
- **Minimal crestal bone resorption** was demonstrated.
- **Crestal bone** after 12 months was shown.
- **Good aesthetic and clinical results** were seen at 12 and 36 months.