A study on Straumann Bone Level SLActive® dental implants

Comparing change in peri-implant bone level between submerged versus transmucosal placement of bone level implants in the anterior maxilla and mandible: 12-month results

Christoph Hämmert et al., Switzerland

The surgical procedure and implant insertion time are another important factor, with a historical success criterion being bone loss of no more than 0.5 mm in the first year and <0.2 mm annually thereafter.

This investigation was designed to evaluate the amount of bone level change with submerged and transmucosal healing, and to assess any difference in bone level change between the two procedures with Straumann Bone Level SLActive® Implants.

Materials and Methods

Implants to replace single teeth in the anterior region (maxilla or mandible) were placed in a total of 146 patients in 12 centres in seven countries. A temporary crown was placed between eight and 14 weeks, and the final reconstruction was placed after 26 weeks. The primary parameter was evaluation of change in bone level, measured by standardized radiographs taken at the surgery (baseline), provisional placement (approx. 14 weeks), final crown placement (six months) and 12 months, with annual follow-up intended for up to five years. Secondary parameters included soft tissue recession, implant survival and success and prosthesis success.

Results

The Intent-to-Treat (ITT) population for the 1-year results included 127 patients (60 and 67 in the transmucosal and submerged groups, respectively). Based on the 12 month ITT population data, the mean change in bone level after six months was -0.30 ± 0.35 mm (-0.32 ± 0.47 mm and -0.29 ± 0.65 mm for the submerged and transmucosal groups, respectively), while after 12 months the mean change in bone level was -0.47 ± 0.64 mm (0.47 ± 0.64 mm and -0.48 ± 0.65 mm for the submerged and transmucosal groups, respectively) (Fig. 1). There was therefore no significant difference in bone level change between the two groups. Almost two-thirds of implants (64.8 per cent) showed less than 0.5 mm bone loss over 12 months (Fig. 2). The implant survival and success rate was 98.2 per cent.

Patient satisfaction with the final prosthesis was extremely high; 99 per cent of patients reported their level of satisfaction as excellent or good (Fig. 5).

Percentage of implants showing different categories of bone level change.

Fig. 1: Mean bone level change from baseline at 6 and 12 months. – Fig. 2: Percentage of implants showing different categories of bone level change.

Fig. 3: Percentage of implants showing different categories of bone level change.
Dentistry in Singapore goes more digital
National Dental Centre launches new electronic record system

HONG KONG/LEIPZIG, Germany: Singapore’s largest dental care facility is upgraded its patient management. From April on treat-
ment data of patients visiting the National Dental Centre will be reg-
istered and stored within a new electronic dental record system. The
US$3 million project took years to complete and is the first custom-built
dental record system in the city state.

Launched by the end of March in presence of Singapore’s Health
Minister Khaw Boon Wan, the sys-
tem is supposed to allow dentists
better access to the dental history and pre-medical conditions of pa-
tients. It will also significantly cut
down waiting times at the clinic, ofﬁcials told the newspaper The
Strait Times. In recent years, the
Centre has repeatedly been criti-
cised for their long waiting lists, particularly for specialist appoint-
ments such as root canal treatment or bridge work.

The system will also be com-
patible with the electronic med-
ical record system by the coun-
try’s largest healthcare provider
SingHealth for sharing critical medical information such as drug
allergies or lab tests results.

With an annual inﬂux of more
than 18,000 patients, the National
Dental Centre is one of the largest
centres for dental healthcare serv-
ices in Singapore. It currently
maintains three specialist clinical departments for oral and maxillo-
facial surgery, orthodontics as well
as restorative dentistry. They also
offer a range of dental training pro-
grammes and continuing profes-
sional education. [2]

Discussion
Traditional implant success cri-
teria include an acceptable bone
loss of 0.5 mm in the ﬁrst year and
<0.2 mm annually thereafter. Re-
cently, however, there have been
suggestions for these criteria to
be revised, indicating that a more
acceptable bone loss for modern
implant systems would be 0.3 mm
over ﬁve years. However, many of
the studies on which this sugges-
tion is based placement of the
temporary or ﬁnal prosthesis rather
than placement of the im-
plant as the baseline measurement
for bone level change.4

Studies that use implant place-
ment as the baseline measurement
for bone level change have shown
relevant bone loss before loading;2,3
therefore, using prosthesis place-
ment as the baseline may give an in-
accurate reﬂection of the real
amount of bone loss.1 A more accu-
rate picture can be obtained by
measuring bone levels at implant
placement and at regular intervals
thereafter (Fig. 1). Knowledge of the
amount of bone level change to ex-
pect has a huge clinical relevance in
treatment planning to achieve an op-

timistic aesthetic outcome; for ex-
ample, unexpected bone loss can cause
substantial soft tissue recession, re-
sulting in an aesthetic failure.

Conclusions
Marginal bone level change was small and not signiﬁcantly dif-
ferent between submerged and transmucosal implants.

- The marginal bone level change from implant placement as base-
line is 0.47 mm (mean). The mar-
ginal bone level change from im-
plant loading as baseline (at six
month) was -0.17 mm (mean)
- Extremely high survival and suc-
cess rates were observed (96.2 per
cent for both)
- Patient satisfaction with the out-
come was extremely high (99 per
cent).

Editorial note: A list of references is available from the publisher.

TRAINER (ASIA PACIFIC)

Straumann is a global leader in implant and restorative dentistry and oral tissue regeneration. By offering a full spectrum of products
with cutting edge technology and service, Straumann has become the partner of choice for dental professionals worldwide. Training
& Education (T&E) is a core function at Straumann globally and in APAC regionally priding itself for its unique partnership with thought
leaders and clinicians in dental ﬁeld in building awareness and expertise in implant, restorative and regenerative dentistry through
training and education of unmatched quality.

Straumann APAC is now looking to recruit a Regional Trainer who will be responsible for training customers as well as internal and
distributor staff on Straumann portfolio of products. The Trainer will also be responsible for the logistics of the courses, planning and
arranging the necessary training materials and equipment. He/she would be travelling frequently giving training support to the region.
The Trainer will also respond to customer inquiries with speciﬁc technical advice/support where necessary. The Trainer is responsible for
ensuring that training and education programs are conducted in accordance to global guidelines and with adaptation to local needs.

The position is based at the company’s regional Head Quarters in Singapore and reports to the Director of Scientiﬁc Affairs, APAC.

Tasks
 Planning, organization and successful delivery of high quality T&E courses
■ Planning for APAC HQ courses on a yearly basis in collaboration with broader APAC T&E team
■ Setting and regular maintenance of APAC course/ activity database
■ Support to non-Straumann customer activities with materials and equipment
■ Support to subsidiary and distributor programs
■ Post activity reporting

Internal/Staff Training
■ Planning, content development and execution of staff training
■ Foreseeing the attendee criteria, agenda and logistics of the event within allocated budget

External/Customer Training
■ Planning, organization and ensuring successful execution of high quality and differentiated courses
■ Providing material and equipment support

Candidate Qualiﬁcations
■ Degree in Dentistry, Education or as a Dental Technician
■ Experience in dental industry and implant dentistry is preferable
■ Professional experience in adult education is a bonus
■ Fluency in English (written and spoken) is a must. Asian languages (Mandarin, Japanese) would be an advantage
■ Experience with Microsoft Office packages and Powerpoint in particular is expected
■ Excellent interpersonal and presentation skills
■ Well-organized and structured person
■ Team player
■ Comfortable to interact with different cultures and customer segments

Straumann Singapore Pte Ltd
#26-01 Fuji Xerox Towers
80 Anson Road
Singapore 079907
www.straumann.com
job.sg@straumann.com

COMMITTED TO
SIMPLY DOING MORE
FOR DENTAL PROFESSIONALS