Promising Outcomes With SPI®ELEMENT RC Implants and Socket Shield Technique in Pilot Study Over 5 Years

THOMMEN Medical

Bäumer D et al, Clin Oral Implants Res. 2017; 28:1450–58

Background

When **immediately placing an implant** in an extraction socket, the **resorption of surrounding soft and hard tissues poses a substantial challenge.**

Therefore, **the socket shield technique** was developed, during which the buccal portion of the root is retained. This should preserve the periodontal ligament and bundle bone and thus **avoid major resorption.**

Aim

Retrospectively evaluate the socket shield technique over 5 years in terms of:

- ✓ Safety
- ✓ Volumetric changes of affected facial contours
- ✓ Clinical and esthetic appearance of peri-implant tissues

Study Design

Retrospective analysis on 10 adults with one single front tooth no longer worth maintaining*

Maintenance of a 2-3 mm lamella of the former root in the area of the buccal bony socket during tooth extraction

Placement of an SPI®ELEMENT RC implant**

Final crowns 5 months after surgery

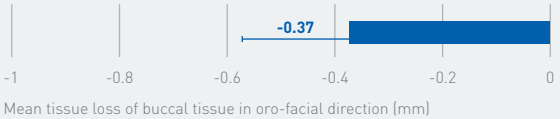
Follow-up: 58 (51–63) months

Results

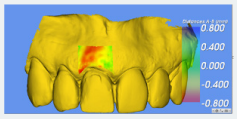
Good clinical and esthetic outcomes over 5 years with the socket shield technique†

- ✓ No healing complications
- ✓ No adverse events
- ✓ No signs of peri-implant mucositis

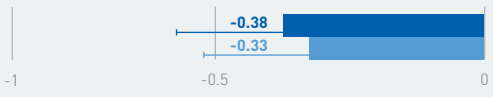
Low degree of contour changes in volumetric analysis (N=10)



Mean tissue loss of buccal tissue in oro-facial direction (mm)



Healthy soft tissue over 5 years (N=10)



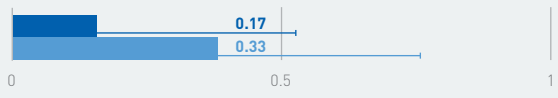
Mean recession (mm) ● Neighbouring teeth ● Implants

Before extraction | After crown insertion | 5 year follow-up

Mean pink esthetic score

12

Stable marginal bone levels over 5 years (N=10)



Mean loss of MBL (mm) ● Distal ● Mesial

After crown insertion | 5 year follow-up

Key Takeaways

- ✓ High esthetic outcomes and effective preservation of facial tissue contours are reported in this pilot study over 5 years
- ✓ The socket shield technique can hence be seen as a promising treatment strategy for implants in the esthetic zone††

*5 males, 5 females; patients with present or past periodontal disease and smokers were excluded. For further information on the technique, watching the following video is advised: https://www.youtube.com/watch?v=bJyccRvELr4 **Augmentations or reconstructive surgical treatment measures were omitted. Non-submerged healing with an individualized healing abutment (n=6) or an immediate provisional (n=4) †All displayed images were kindly provided by Dr. Markus Hürzeler and were not part of the original publication. Patient 13 is shown as an example ††The authors note that the technique should not be used in routine clinical practice until higher-level evidence is available.
MBL, marginal bone level; RC, regular collar.