SBH All in One Concept, Metal removal, Presurgical preparation and Bolstering of Immune system prior to surgery, SDS Zirconia Implants and surgical process, SDS Restorative, Khoury Technique.

Dr. Corbin Popp, Biological Dentist, Denver, CO, USA, Dr. Rebekka Hueber, Leader department of biological dentistry, Swiss Biohealth Clinic, Kreuzlingen, Switzerland, Dr. Ulrich Volz, Founder and Leader of the Swiss Biohealth Clinic, Swiss Biohealth Clinic, Kreuzlingen, Switzerland

72 year old female presented on referral for a comprehensive biological approach to restore her failing prosthetic dental work composed of porcelain-fused to metal crowns and bridges. (Figure 1) Her motivations were to maintain overall health and to have lasting dental work with biocompatible materials. She had a history of trauma and multiple missing teeth plus multiple root canal therapies,a history of recurrent decay and periodontal disease. Her occlusion appeared to have a Mandible to Cranial Base discrepancy with significant first touch and slide coupled with multiple posterior interferences. She reported previous migraine headaches and clenching at times. The long spanning PFM bridge from #14-24 was class 1 mobile. Additional PFM crowns 16, 17, 25, 26, 36, 44, 46. Multiple failing root canal treated teeth #15, 14, 25 and questionable prognosis #24 with periodontal bone loss. She had slight mobile lower incisors with moderate recession and subsequent black triangles were apparent with moderate crowding. Esthetically, the patient was unhappy with the shape of her current teeth, stating: "my teeth have a large overbite" After complete examination and presentation of our findings the patient expressed interest in a comprehensive program to restore her bite using non-metal materials. In our initial plan, we discussed treatment of worn restorative work and to address the harmony of her bite for optimal lasting dentistry. We discussed the All-In-One concept of the Swiss Biohealth method to utilize immediate implantation using SDS ceramic implants and long-term fixed temporaries. She liked the biological approach and was referred to Swiss Biohealth Clinic for planning of this surgical phase in conjunction with our pre-surgical site work to remove metal PFM restorations and mercury fillings.

She began treatment at the end of October 2019, completed the site work following SMART protocols of the IAOMT and placement of composite core build ups with Luxatemp provisional crowns. (figure 2) She and her husband flew to Switzerland and arrived at the Swiss Biohealth Clinic in Kreuzlingen a few days prior to her surgical visit on December 11 2019.

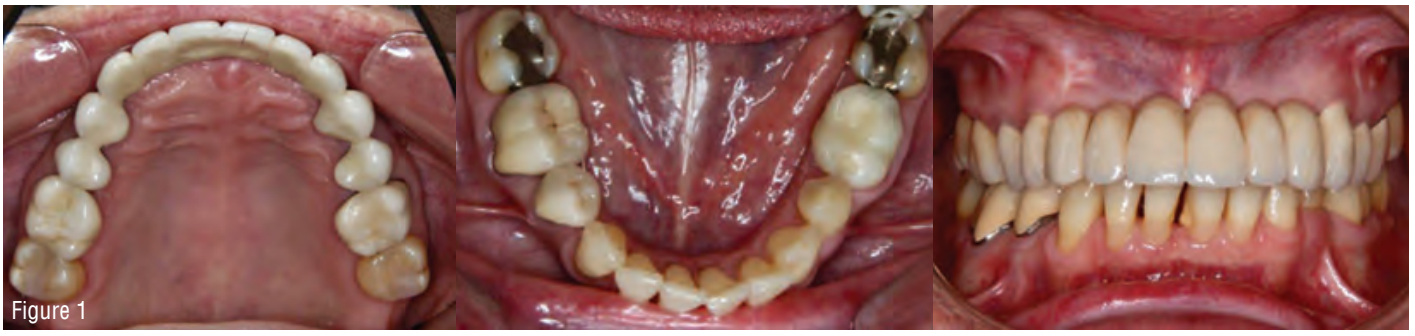
Preoperative measurements

The patient introduced herself for the first time at the beginning of December 2019 in the Swiss Biohealth Clinic and was kindly referred to by Dr. Corbin Popp. The clinical examination revealed that teeth 5, 6, 12 and 13 were not worth preserving. Horizontal and vertical bone loss occurred in the maxillary anterior region due to long-standing edentulism. In the CBCT-scan taken on site, ischemic osteonecrosis in the sense of FDOJ could be diagnosed. Due to the SAC Assessment classification tool, that is a guideline in order to graduate the difficulty of a surgical implant case we were facing a complex situation, in terms of aesthetic, surgical and restorative evaluations.

An important part of our SWISS BIOHEALTH CONCEPT is to strengthen and optimally prepare the immune system of our patients in order to achieve the best possible bone healing. Four weeks before the surgery, our patients start to supplement the BASIC IMMUNE mixture, formulated by Dr. Klinghardt and Dr. Volz, that not only contains every necessary micronutrient for an optimal support of the body's own regeneration but also works as a pre-biotic due to the cellulose sponges it contains. It is taken for another four weeks after the surgery. Through this intervention we are able to lift the vitamin-D-level 70 ng/ml or higher in order to reach optimal bone growth.

On the day before the surgery the patient got an infusion consisting of Vitamin C (15g), Vitamin B12, Natrium bicarbonate, magnesium sulfate, procaine and ringers solution. On the next day the surgery was performed after the All-in-one-concept in one day.

During the whole treatment, the patient receives the so-called BTPII-infusion, which contains 15g vitamin C, procaine, Mg-sulfate, sodium carbonate and vitamin B12, bear the end of treatment, the high-dosage vitamin C infusion is replaced with a pain-relief infusion. It is of great importance not to activate the sympathetic nervous system as this would impair the immune system and healing mechanisms.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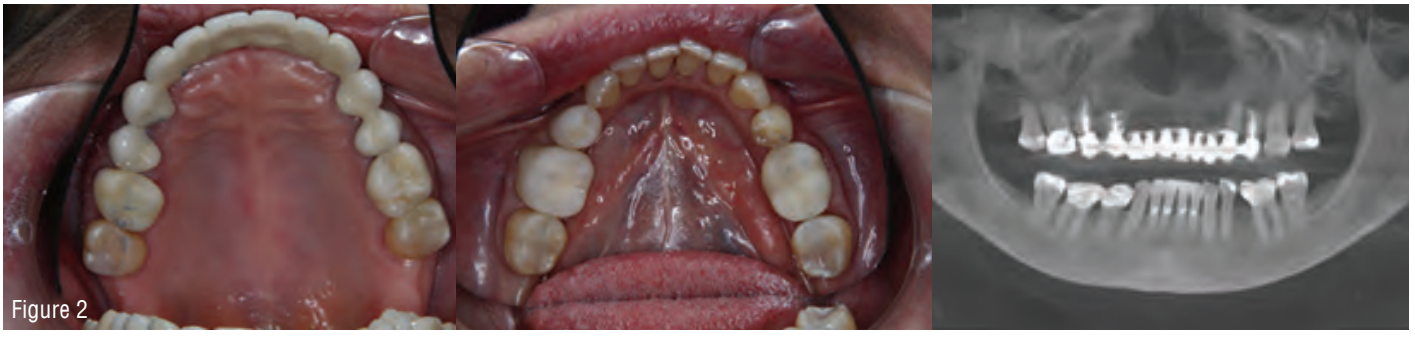
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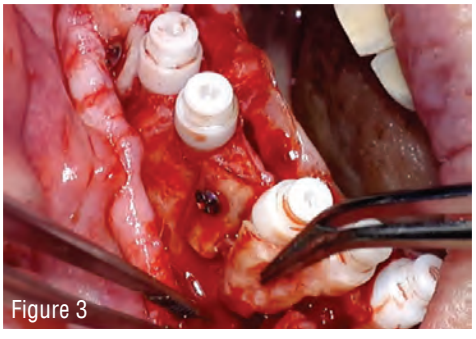
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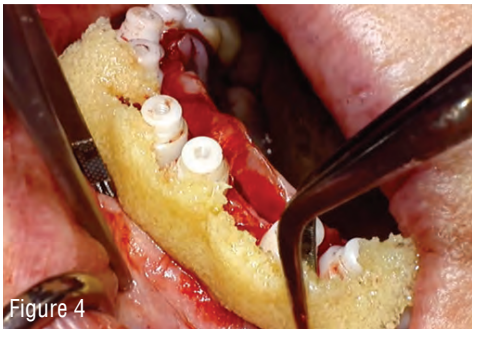
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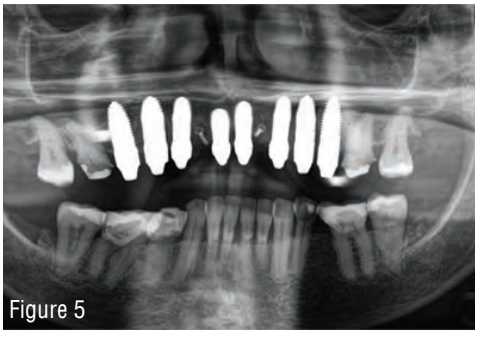
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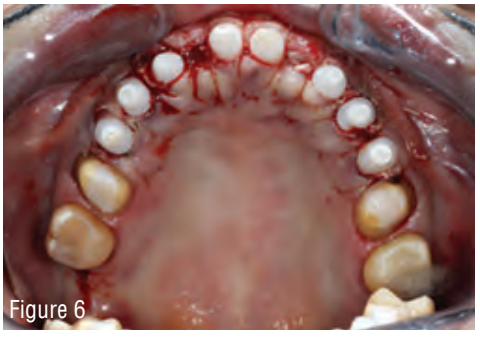


Figure 6

Surgical intervention

In all four wisdom tooth regions, both the ischemic and degenerative bone material was removed with piezo surgery and autologous bone chips were obtained after a minimally invasive approach. In regions 38 and 48, bone windows were lifted for subsequent bone augmentation in the maxillary anterior region. The areas were treated with ozone DTA and closed after insertion of PRF (platelet rich fibrin) matrices.

The teeth 5, 6, 12 and 13 were extracted under local anesthesia with a minimal and gentle procedure aiming to save as much bone as possible. The inflamed tissue was carefully cleaned and removed. It is inevitable to thoroughly clean the alveolus and disinfect it, as ceramic implants only osseointegrate in healthy bone. For cleaning additionally the ozone DTA 60 was used seconds on level 6.

Implantation and bone augmentation

It is highly important to follow a drilling protocol that considers the biology of the bone. The drills for the implantation are made of ATZ ceramic and by combining different protocols that vary based on bone class and appropriately adapted form drills, the implants gained an excellent primary stability. In the region of the compacta, the preservation of the blood flow was achieved through an oversized drilling and therefore zero compression on the bone. The stability of the implant was gained on the tip through an aggressive „Macro-Thread", that works simultaneously as a bone condenser on the spongiosa.

Ceramic implants were placed in regions 4, 5, 6, 8, 9, 11, 12 and 13.

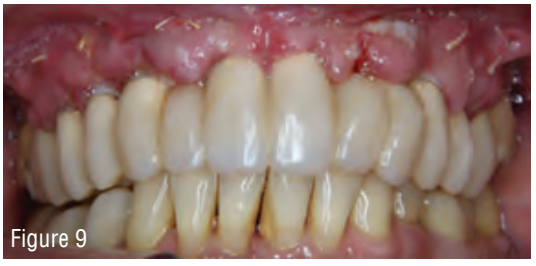
Due to the pronounced resorption in regions 6 to 11, a solid sticky bone was created using an allogenic augmentation material and the low-speed centrifugation concept according to Prof. Dr. Ghanaathi (University of Frankfurt, Germany). A-PRF and i-PRF were centrifuged (Mectron) for 8 minutes at 1200 revolutions per minute. The augmentation material was then sprinkled with the injectable PRF and additionally activated with the exsudate from the pressed PRF matrices of the A-PRF tubes. Autologous bone collected during the operation was added and fixed with two osteosynthesis screws in the region 7 and 10 on the buccal site (Ustomed). The region was then covered by sticky bone and PRF matrices.

The mucoperiosteal flap, which had previously been opened by a marginal incision, was sutured again after gentle brushing (Brushing System, Dr. Choukroun) with deep apical mattress sutures and papillary sutures.

The implants were immediately provided with a long-term provisional restoration (Luxatemp, Durelon TM).

The healing phase at the SWISS BIOHEALTH CLINIC is supported by the SWISS BIOHEALTH WEEK, in which the patients are looked after by our medical team and get treatments that keep them in parasympathetic mode. The


Figure 8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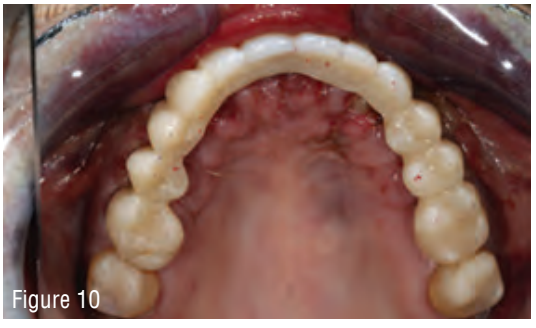
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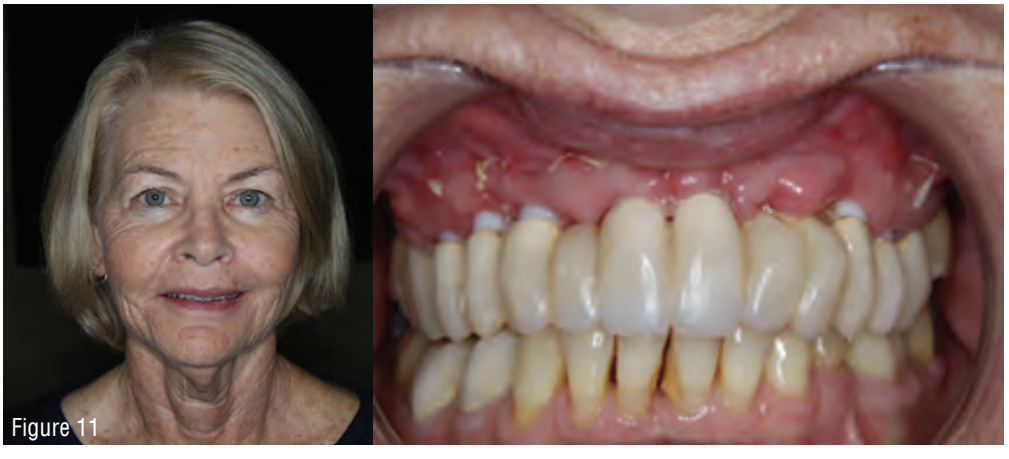
Figure 11

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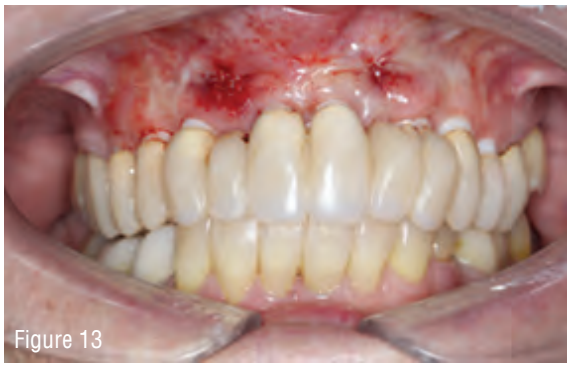

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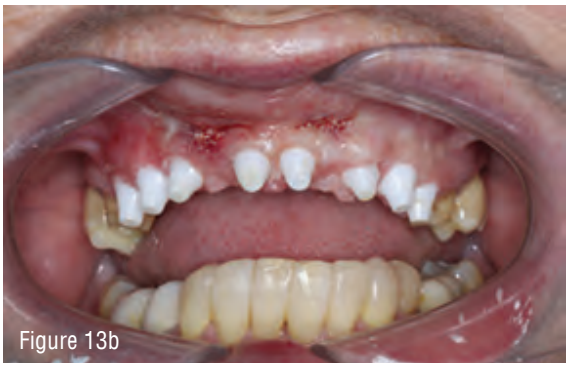


Figure 13b

Figure 14

patient experienced no swelling on the surgical site and an instant relief of most of her symptoms. After a few days, she was able to fly home to the United States. In only one minimally invasive and biological intervention her chronic inflammation and the causing teeth were removed.

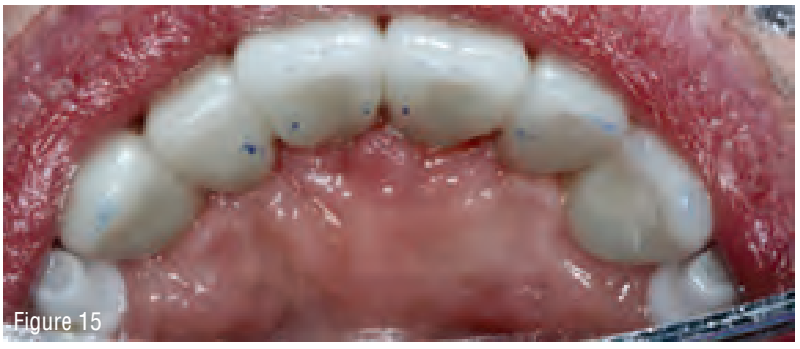
Post–Operative measurements

The patient returned to Denver and was seen by Dr. Popp two weeks post-operative PO. (figure 8-10) The patient reported mild swelling and no pain 0/10. She was taking 400mg ibuprofen q 8hrs as needed to manage her pain. She was concerned with some recession in the upper area palatal area of 13/14 (#5/6). The tissue exhibited slight recession but was healing very well without redness or drainage and only with very mild swelling. The patient was reassured she was healing normally. We infiltrated near the surgical sites 2ccs procaine 2% w/o epinephrine then 1cc Vit B12, 2cc Trameel, and 1cc lymphomyosot followed by 11gamma ozone injections five minutes following the procaine anesthetic. Her healing was unremarkable over the next couple weeks.

At one month post-operative she returned removing the remaining sutures (figure 11). All sites were healing well however she mentioned her migraine headaches had been periodically returning and was concerned that it may be from clenching. We discussed the Foundation for Bioesthetic Dentistry (OBI) method utilizing a bioesthetic Maxillary Anterior Guidance Orthotic, bMAGO to achieve the most stable condyle position and to simulate an increase in the vertical dimension of occlusion to expand our restorative rebuilding options. She also mentioned some esthetic concerns to improve the shape and proportions of her upper incisors.

At three months post-surgery her temporaries were still intact and we took alginate impressions (densply) to fabricate a maxillary orthotic. Following multiple adjustment visits to balance the orthotic as the condyles settle to the most stable condylar position SCP. The patient had significant improvement with headaches over three months time.

Challenges included hyper-eruption of the lower anteriors, mobile lower teeth with black triangles and recession, in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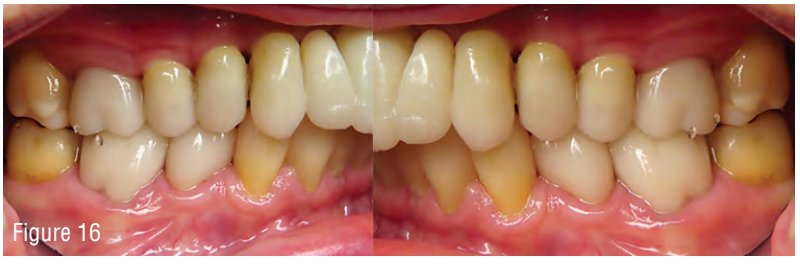
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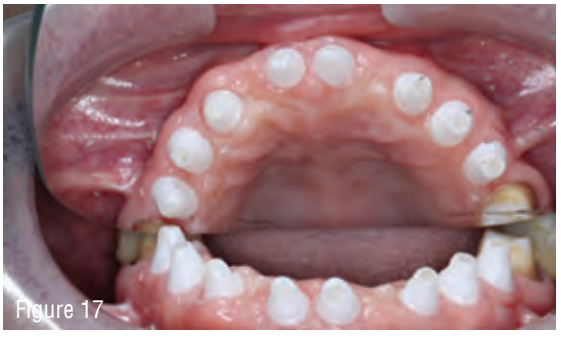
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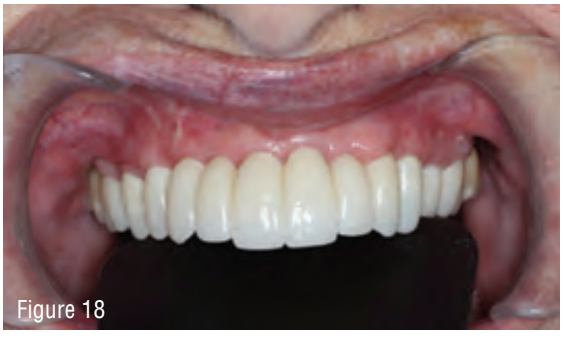
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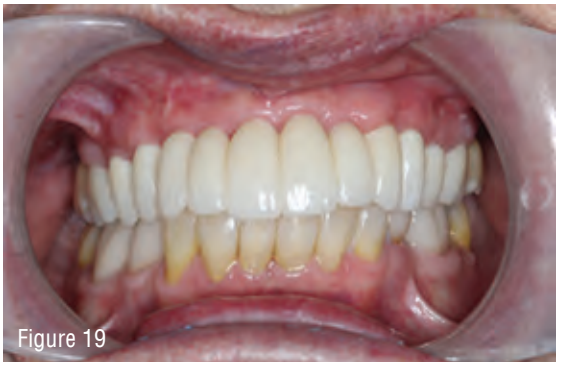
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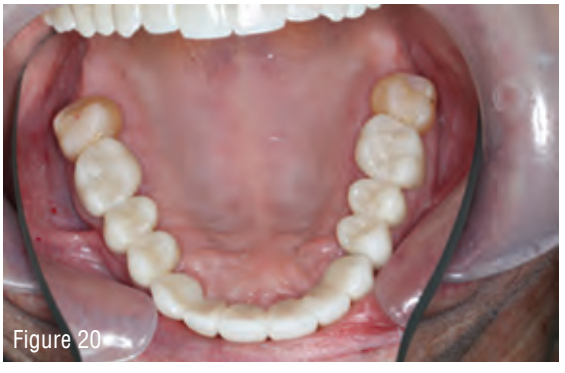
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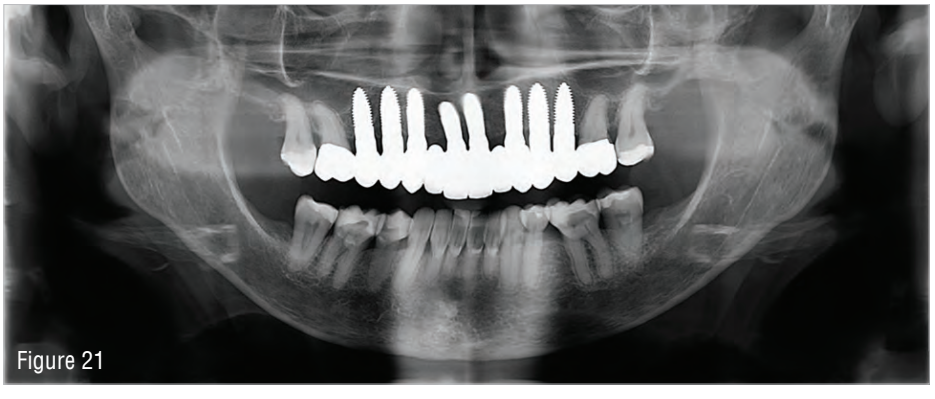
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