

# Straumann® Novaloc® attachments on 4 Straumann® RN/NNC for retention of full upper denture with palatal reduction.



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In the present case, four Straumann® RN/NNC implants with Straumann® Novaloc® attachments added high retention to a full upper denture. The four implants were placed almost parallel, making it an easy case for the dental technician as well. Sometimes the anatomy of the residual upper ridge gives the implants in the front an anterior inclination. In such cases, angulated Novaloc® abutments\* can be beneficial in reducing “shine through” of the attachment housing through the acrylic.

## PRODUCT INFORMATION BY THE MANUFACTURER

The Straumann® Novaloc® Retentive System for hybrid dentures offers an innovative carbon-based abutment coating (ADLC, amorphous diamond-like carbon) with excellent wear resistance, overcoming up to 60° implant divergence. Both a straight and a 15° angled abutment, available in various gingiva heights, cover a broad range of clinical implant situations. Together with its durable PEEK (Polyether ether ketone) matrices, the Novaloc® Retentive System provides a reliable connection that endures. This results in low maintenance and high patient comfort.

## INITIAL SITUATION

The patient, a diabetic, non-smoking 75 year old male, was referred to the clinic complaining of a lack of retention of full upper denture due to severe resorption of the alveolar ridges.

## TREATMENT PLANNING

The patient wanted to restore his chewing capacity and the security of knowing that his denture would not come loose under function. Orthopantomography showed enough bone under the sinuses for the placement of 10 mm implants (Fig 1). Intraorally, the width of the bone was reduced in the frontal area.

We planned four tissue level implants: two RN distally in the region of ADA 14 and 24 and two NNC in the region of ADA 12 and 22 with the new Novaloc® attachments and new upper denture with palatal reduction. One mm Novaloc® abutments were used on the two RN implants and 3 mm Novaloc® on the two NNC implants. This case report focuses mainly on the prosthetic procedure and the use of Straumann® Novaloc® abutments.

## SURGICAL PROCEDURE

A crestal incision was made from 4 to 13, and a full periosteal flap was reflected. In the regions of 5 and 12, the implant bed was prepared just to the sinus floor. Next, two Straumann® RN 4.1 mm x 10 mm were inserted. Since the bone width was reduced in the regions 7 and 10, Straumann® NNC 3.3 mm x 10 mm were placed. All implants showed good primary stability with an insertion torque of 25 Ncm, and healing caps (2 mm RN, 3 mm NNC) were mounted for transgingival healing. The upper denture was adapted and relined following suture removal after 1 week.

## PROSTHETIC PROCEDURE

After 4 months of healing time (Figs. 2,3), the black Novaloc® attachments (Figs. 4,5) were placed using the SCS screwdriver with an insertion torque of 35 Ncm (Fig. 6). An impression was taken to fabricate the new upper denture. The matrix housing is available in two materials, titanium and PEEK. For this case we chose the two PEEK matrix housings, which were relined in the denture according to standard procedures. Note: In contrast with other well-known systems, the retention inserts are made of PEEK instead of nylon. The final result for the upper overdenture, adapted to the Straumann® Novaloc® technology, is presented in Figs. 7-9

## FINAL RESULT

A full upper denture with Novaloc® attachments and palatal reduction resulted in excellent patient comfort and quality of life. The patient was very happy with the esthetics and the function. The dentist and the laboratory were also pleased with this new product: the familiar SCS screwdriver could be used, making an additional tool unnecessary. Lab work by Michael Wiernek, Aarhus, Denmark.

