Case Report

Neoss4+ concept with ProActive Edge implants for full-arch rehabilitation of an edentulous maxilla.

Dr. John A. Hodges, USA

Patient: 75-year old female. Non-smoker in good general health.

Clinical situation: All teeth were extracted 5 years ago. Patient is unhappy with existing dentures, having difficulties chewing.

Treatment plan: Fixed bridge in the upper jaw retained by 4 Neoss ProActive Edge implants. Delivery of fixed provisional bridge within 4 days from surgery.

Figure 1

Figure 2

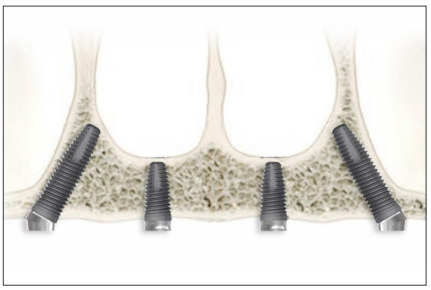

Figure 3

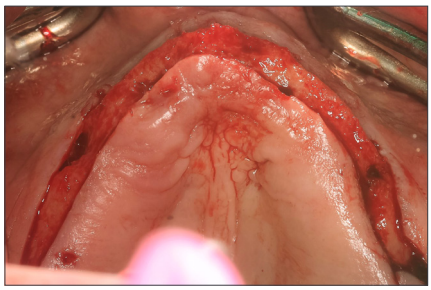

Figure 4

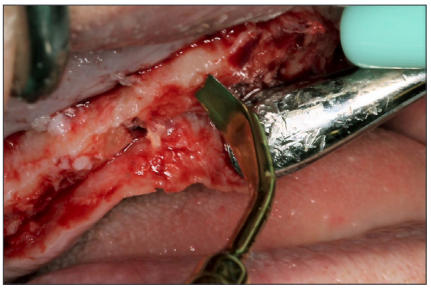

Figure 5

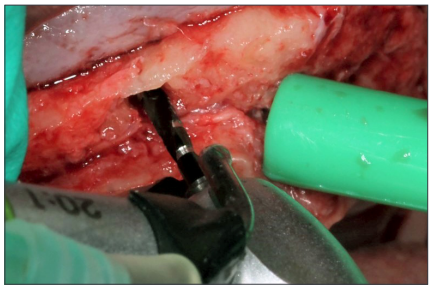

Figure 6

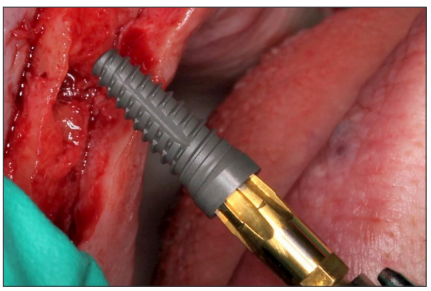

Figure 7

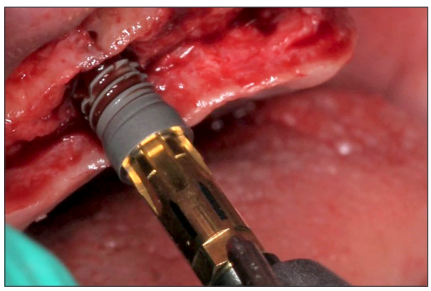

Figure 8

Female patient, a non-smoker in good general health but completely edentulous. All teeth were extracted 5 years ago, currently wears dentures (Figure 1 – 2).

The planned treatment was rehabilitation of the upper jaw with Neoss4+ concept, a fixed implant supported bridge retained by 4 Neoss ProActive Edge implants. The two posterior implants are tilted to maximize the distance between implants and contact with bone and to increase stability, while two straight implants support the anterior (Figure 3).

A full thickness envelope flap was extended from first molar to first molar position with vertical releasing incisions at the most distal extensions of the flap (Figure 4).

Although available bone volume was limited with soft bone quality, the planned treatment allowed implant placement without bone grafting.

The crestal bone was reduced by 1 – 2 mm using a piezo device and high speed surgical handpiece with a round bur (Figure 5).

Four osteotomy sites were prepared where all drilling was done free hand (Figure 6).

Four Neoss ProActive Edge implants were placed (Figure 7 – 8). The posterior tilted implants were 4.0 × 11 mm and 4.5 × 11 mm, and the anterior implants were 3.5 × 11 mm and 4.0 × 11 mm.

The Neoss ProActive Edge implant allows the sites to be under-prepared, removing as little bone as possible while expanding the ridge during insertion, which was very helpful in this narrow ridge situation.

All implants reached satisfactory placement depths and stability. All implants reached final insertion torque value > 30 Ncm and RFA-value of > 70 ISQ.

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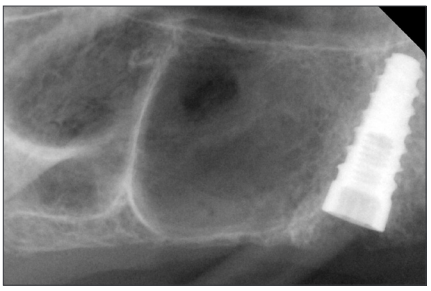

Figure 9

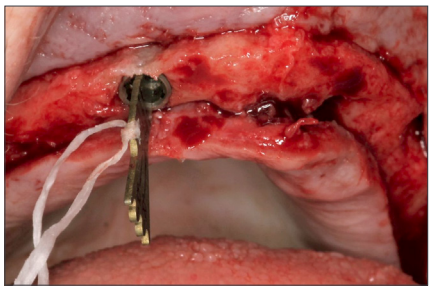

Figure 10

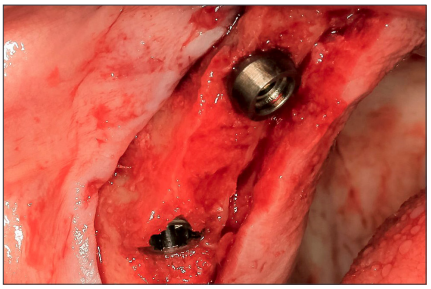

Figure 11

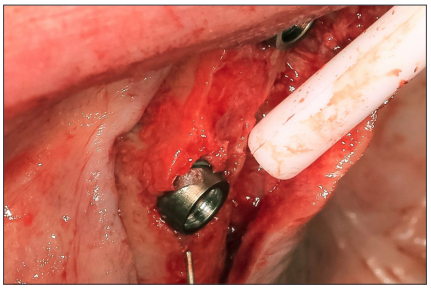

Figure 12

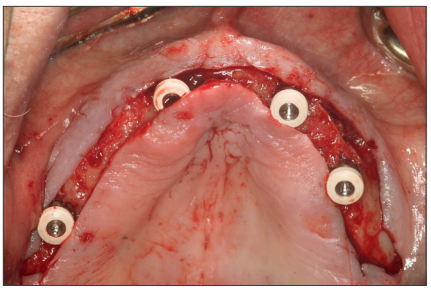

Figure 13

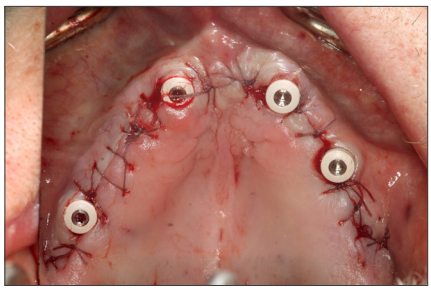

Figure 14

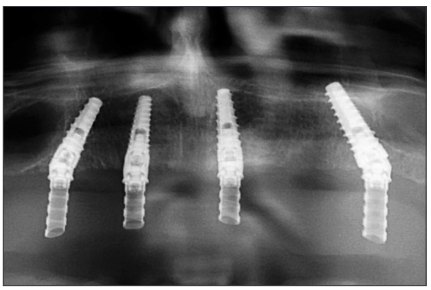

Figure 15

Figure 16

The two posterior implants were placed at an angle in the mesial sinus wall to maximize contact with available bone, increase stability, and to avoid penetration of the sinus membrane (Figure 9).

To achieve optimal prosthetic rehabilitation these tilted implants need to be re-angulated. The Neoss Angulation Gauge was used to measure the degree of angulation (Figure 10).

Angulated Neoss Access Abutments were connected to the implants to align the prosthesis interfaces and thereby making it easier to achieve a passive fit of the prosthesis (Figure 11 – 12).

No soft tissue grafting was needed. Neoss Access PEEK Healing Abutments were placed on the Access abutments (Figure 13) before suturing the flap with PGA sutures (Figure 14).

Radiograph showing implant positions and their re-angulation in accordance with the Neoss4+ concept (Figure 15).

The patient's existing denture was converted to a fixed provisional prosthesis and connected 4 days after surgery (Figure 16).

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