Excellent marginal bone response and healthy soft tissue for the All-on-4® treatment concept with Xeal™ and TiUltra™ surfaces

1-year results from a prospective clinical trial: Pilot study

Low marginal bone remodeling and very good soft tissue health with NobelParallel CC TiUltra implants and Multi-unit Abutments Xeal, placed according to the All-on-4® treatment concept.


Study design
Prospective, single-center

- 16 patients
  - All-on-4® treatment concept
  - Maxilla (11) and mandible (5)

Implant placement & Immediate Function
- 64 NobelParallel CC TiUltra implants
- 64 Multi-unit Abutments Xeal
- 16 fixed full-arch prostheses

Final prosthesis delivery
- 16 fixed full-arch final prostheses

1-year follow-up
- 16 patients evaluated

Clinical relevance
- Very high implant and prosthetic survival with the All-on-4® treatment concept using TiUltra implants and Xeal abutments.
- Excellent marginal bone response combined with good and stable soft tissue health can be achieved with TiUltra implants and Xeal abutments for Immediate Function full-arch restorations.

The results

- 100% cumulative implant survival and prosthetic success.
- Low marginal bone remodeling with a mean of -0.46 mm from implant insertion to 1 year.

- Healthy and stable soft tissue response, with the low median sulcus bleeding index of 1 (isolated bleeding spots visible when a periodontal probe is passed along the gingival margin) and mild plaque accumulation at the 1-year follow-up.
- No biological complications.
A 53-year-old female with failing dentition and severe bone atrophy in the maxilla (a,b) was treated according to the All-on-4® treatment concept with four NobelParallel CC TiUltra implants and Multi-unit Abutments Xeal (c-e). A temporary prosthesis, Malo Clinic all-acrylic bridge, was placed on the day of surgery (f) while the final prosthesis, Malo Clinic acrylic bridge on NobelProcera implant bar, was placed 3 months later. At 1 year, the patient shows excellent soft tissue health around the final restoration (g,h).

Images courtesy of Dr Ana Ferro. Video of the case available from the QR code below.

Xeal and TiUltra are well-documented, clinically proven surfaces

In published studies as of February 2022

235 patients
377 TiUltra implants
160 Xeal abutments

Xeal and TiUltra surfaces show low marginal loss and healthy soft tissue response with the All-on-4® treatment concept