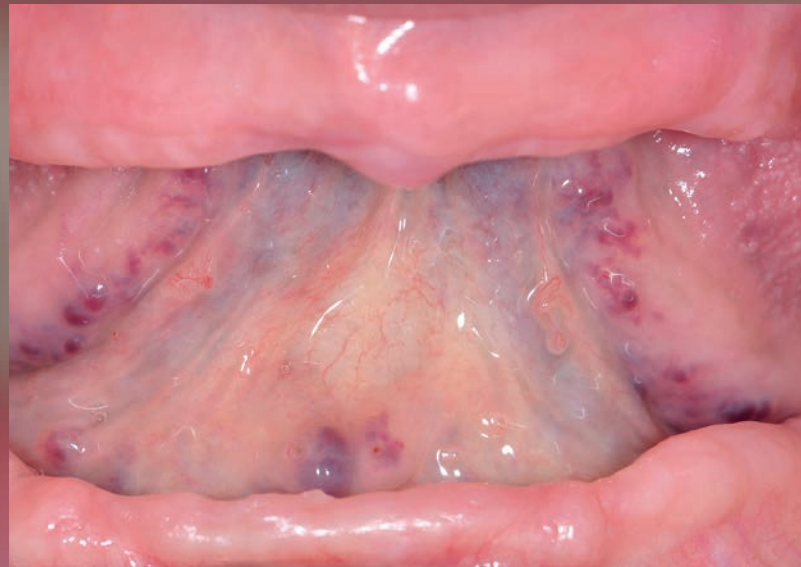
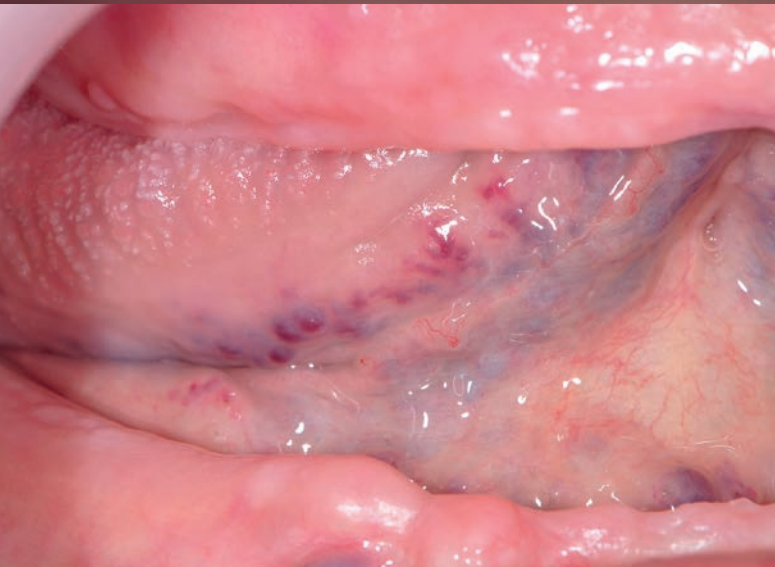
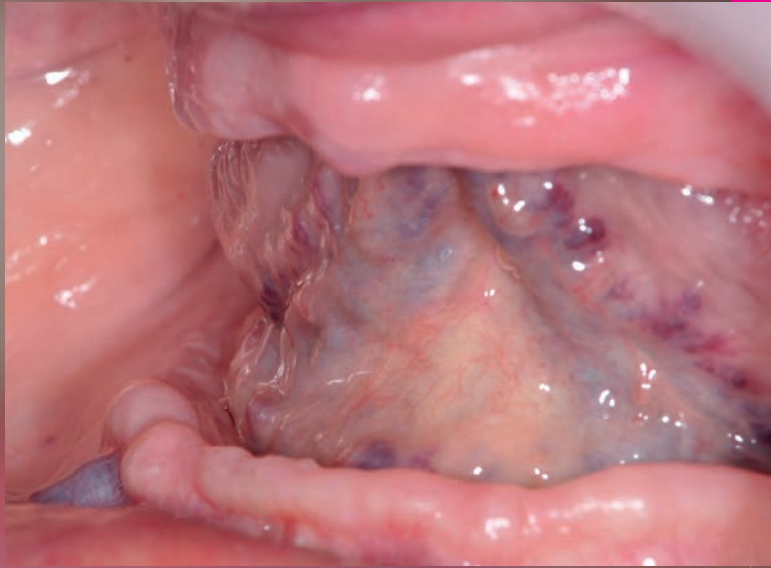




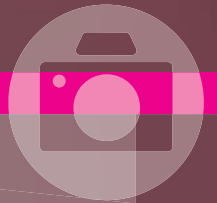
Forward-thinking backward planning

Fixed and fast, removable solutions for elderly people

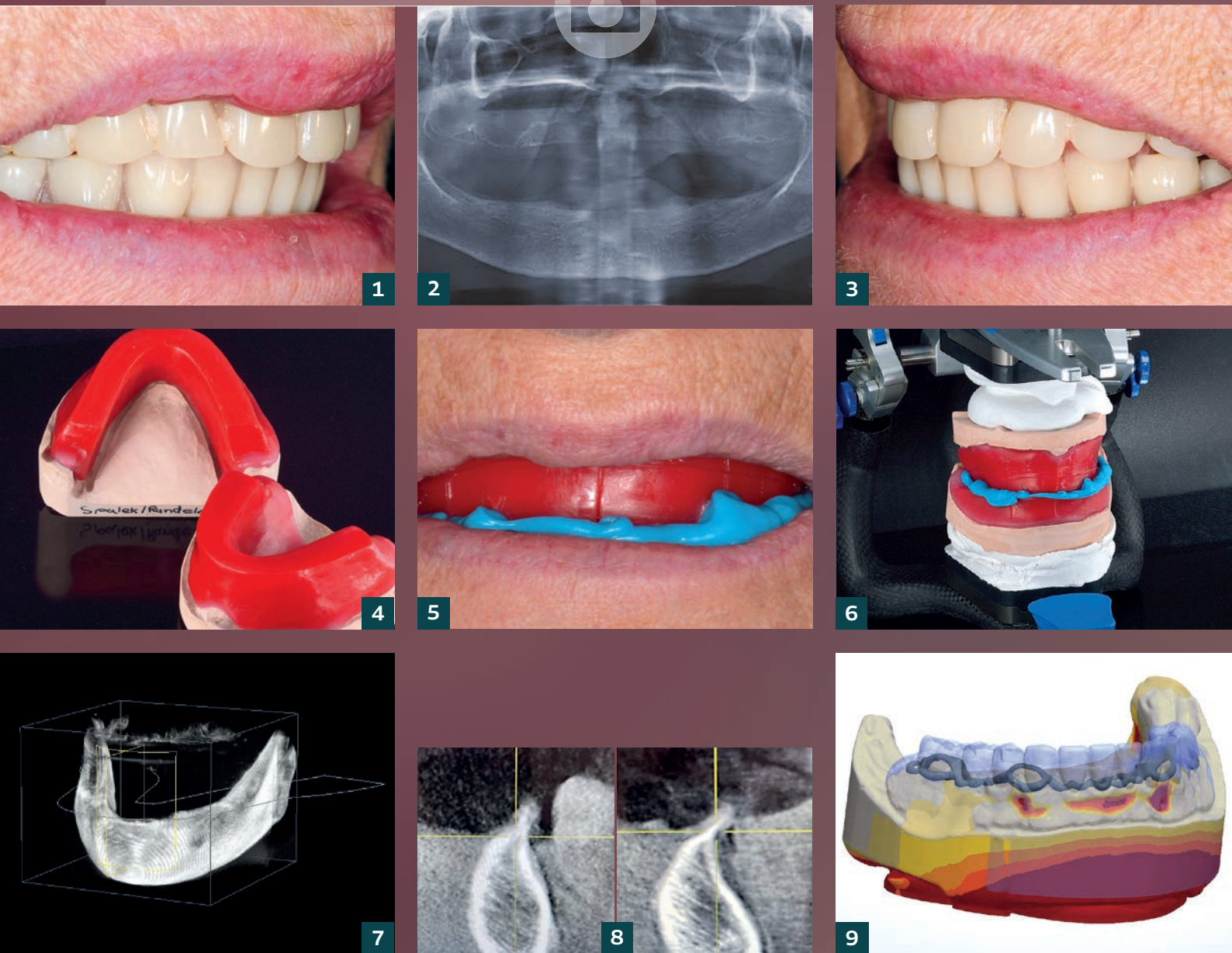


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As physical and mental health decline with age, everything that contributes to quality of life in old age is of great importance – including in the dental practice. Chewing, biting, laughing, and eating in the company of others are part of the quality of life for elderly patients. Against the backdrop of demographic change, increasing morbidity, and a shortage of skilled workers, especially in nursing care, implant-supported prosthetic solutions that are both functional and aesthetic, but also easy to maintain in old age, are desirable for this patient group.

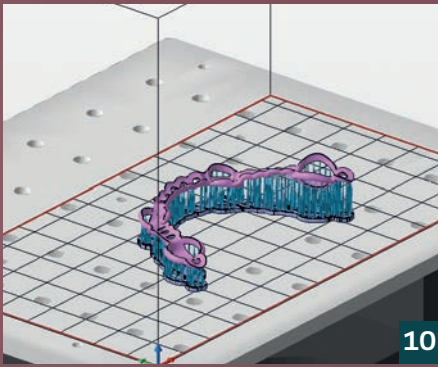


In the edentulous lower jaw, masticatory function is associated with poor retention due to resorption (Figs. 1–3). Dentures slipping, difficulties speaking, and chewing problems result in impaired communication and eating habits for those affected. As with active seniors who are still working, immediate restoration after implantation, preferably with immediate loading, is therefore of great interest in terms of quality of life. In the present case, the loose mandibular prosthesis needed a better fit.

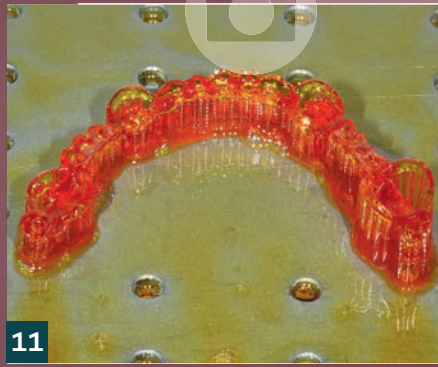
Based on the bone level and the expected bone quality, four Anyridge (Megagen) lower jaw implants were selected to anchor the prosthesis firmly. These implants were photo-functionalised to support osseointegration. In order to take into account the patient's wish not to be edentulous, a new mandibular prosthesis was first fabricated with the aid of the existing prosthesis after determining the occlusal position using backward planning (Figs. 4–15) (Figs. 16–18).

- 1 The elderly woman came to the practice requesting a ...
- 2 ... better-fitting lower jaw prosthesis. Due to resorption and minimal bone preservation ...
- 3 ... the lower jaw prosthesis did not fit well, making it difficult to chew solid food.
- 4 Bite blocks were fabricated over the dentures for the lower and upper jaws.
- 5 Bite registration via the bite blocks.

- 6 Transfer to the articulator.
- 7 Digital volume tomography for backward planning.
- 8 The available bone in the mandible was limited.
- 9 Virtual planning of the framework under the new denture with four implant positions incorporated ...



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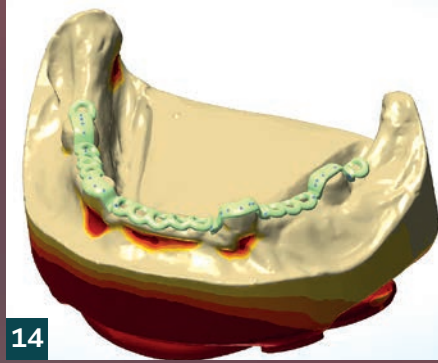
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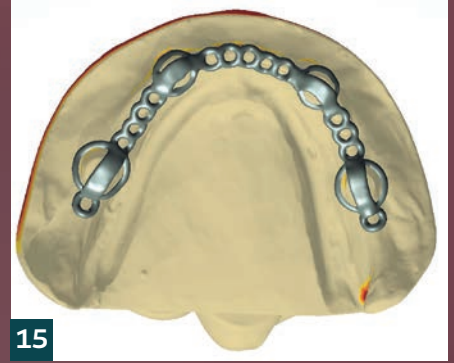
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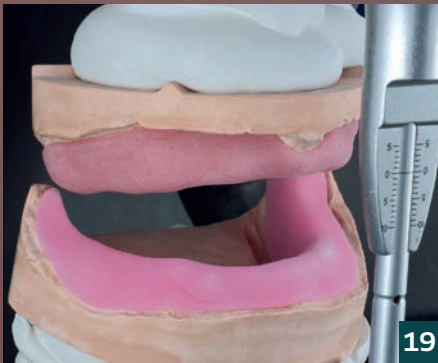
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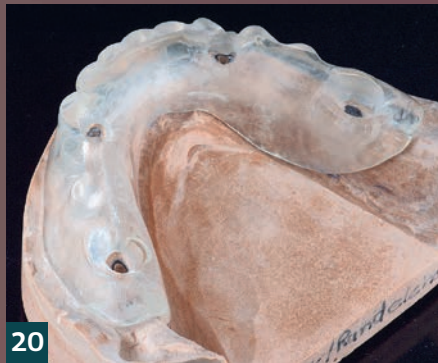
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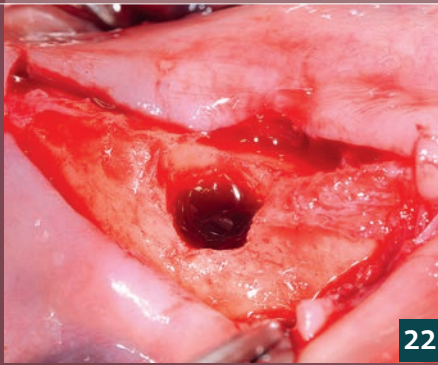
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21

- 10** ... in the lower jaw (first step). This was followed by the transfer of the planning to printing (3D).
- 11** Framework following 3D printing and initial machining.
- 12** Finished template as part of backward planning.
- 13** Incorporation of the acquired prosthetic parameters ...
- 14** ... to implement the plan for new upper and lower jaw prostheses.
- 15** The prosthesis is to be anchored to the implants with locators, which are planned in the framework.

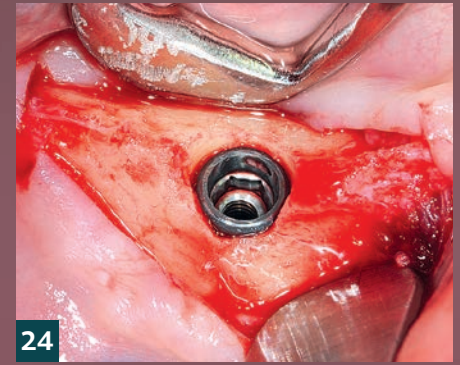
- 16** Prosthesis fabrication. The attachment positions are metal-reinforced.
- 17** Fitting of the prosthesis, checking of function and fit.
- 18** Completion of the lower jaw prosthesis for immediate restoration after implantation.
- 19** The dental technician proceeded with the fabrication of the upper prosthesis in the laboratory
- 20** Transfer of the implant regions by backward planning to the drilling template.
- 21** Clinical image of the narrow mandibular alveolar ridge, with severely reduced bone availability due to age.



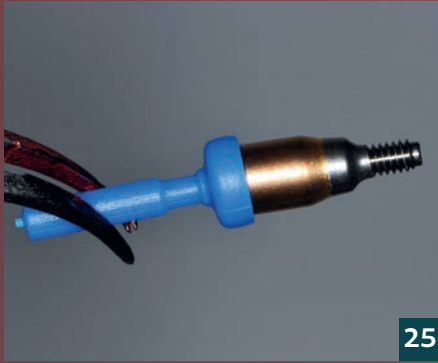
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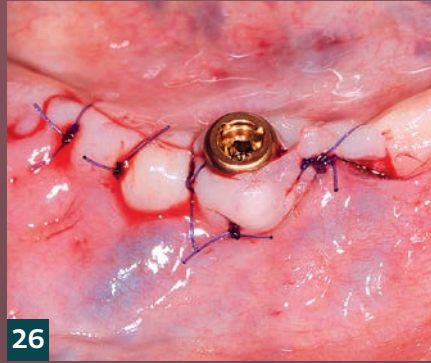
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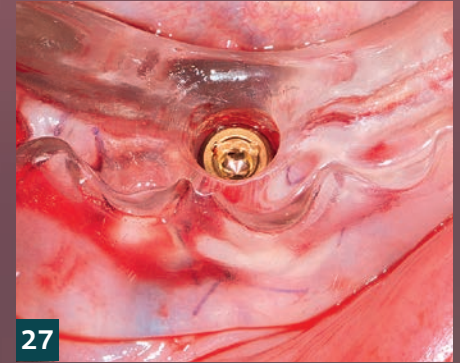
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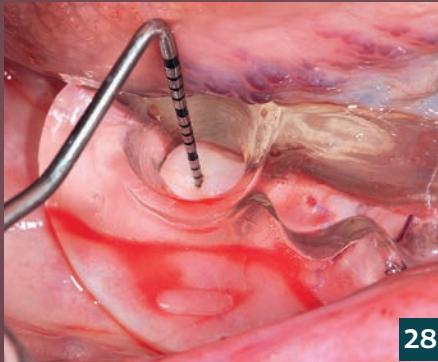
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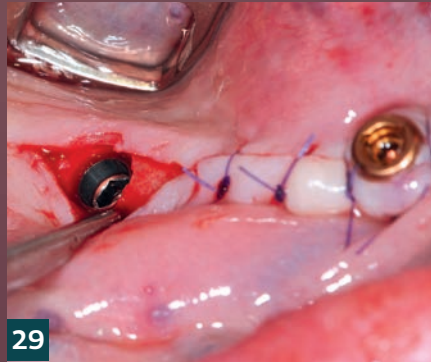
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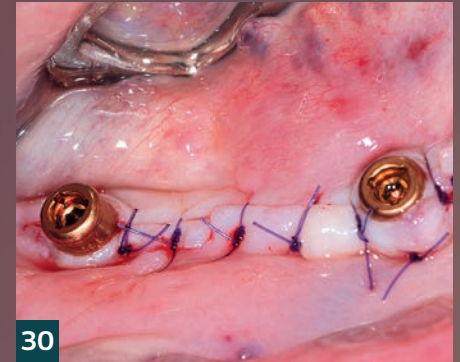
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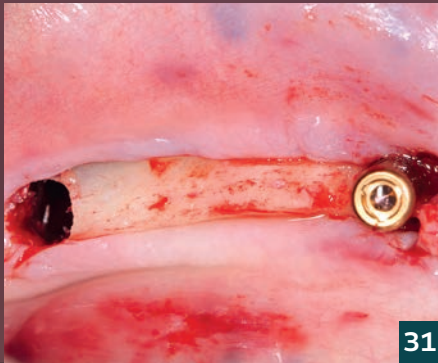
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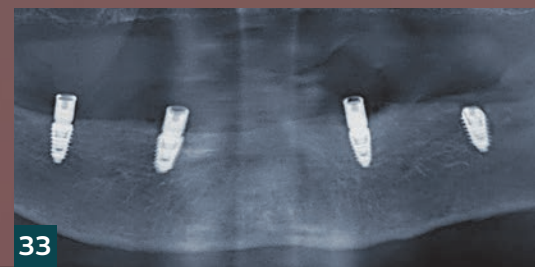
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22 The first implant region selected was the prosthetically balanced position in the canine/premolar region.

23 A Megagen Anyridge (Ø 4 mm, length 10 mm) implant was ...

24 ... selected due to its good primary stability; the target values were above 75 (Ostell) and above 35 Ncm.

25 The implant was fitted with an abutment (Docklocs, Medialis for Megagen Anyridge) and was to heal openly, ...

26 ... followed by tension-free sutures to fix the minimally invasive incision.

27 Position checked again using a drilling template to ensure the prosthesis fit.

28 Next, the Anyridge implant in region 46 was to be inserted, position checked and sounding carried out.

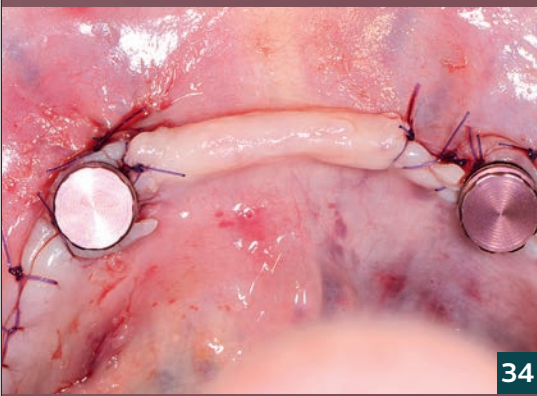
29 Implant insertion after minimal incision.

30 The sufficiently primary stable Anyridge implant was fitted with an abutment (Docklocs).

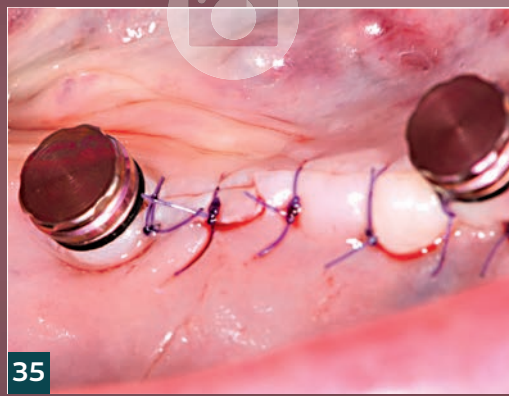
31 Next, the implant was to be inserted in the left canine/premolar region.

32 After inserting the gingiva former and suture fixation, the Anyridge implant was inserted in region 36.

33 The implant in region 36 did not have sufficient primary stability and required closed healing.



34



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42

The optimal implant insertion regions in the mandible were first detected radiographically using software, marked for the pro-detected radiographically using software, marked for the prosthesis and, thanks to the accuracy of the software, transferred to a drilling template (Figs. 19, 20). The Anyridge implants (Ø 4 mm, length 10 mm) were inserted step by step using a minimally invasive incision technique. Abutments from a locator system (Docklocs, Medealis for Anyridge) were placed (Figs.

22–32). The implant in region 36 was unable to achieve the required primary stability for immediate loading (over 75 [Ostell] and over 35 Ncm), so it was left to heal for 3 months (Fig. 33). The prosthesis was adjusted and fitted with soft lab inserts for immediate restoration (Figs. 34–36), and the patient was discharged. The implant in region 36 had healed well 90 days later and was also fitted with a locator, which gave the patient a very comfortable fit and a satisfied, happy smile. (Figs. 39–42). ●

Dental technology: Daniel Sandmair, Sandmair Zahntechnik GmbH, www.dentallabor-sandmair.de

34 Placement of retention inserts and implant attachments (Docklocs, Medealis) for the removable prosthesis.

35 Only the implants 33, 43, and 46 were loaded immediately; the implant in region 36 was to heal for three months.

36 Lower jaw prosthesis adapted to the existing anchoring elements.

37 The patient already reported a significantly improved fit, good chewing function, and a beautiful smile.

38 After 3 months, the implant in region 36 was exposed, revealing healthy gingiva around the implants.

39 Final X-ray check after insertion of all locators.

40 Optimal combination, prosthetically supported and aesthetically designed ...

41 ... the new dentures also contribute to the patient's high quality of life in the long term.

42 A happy, carefree smile.

"Final dentures after completion!" Video

