Locator® retained mandibular complete prosthesis
(iSy Implant System)

Mucosa-supported complete prostheses with poor fit greatly reduce people's quality of life. This is why the importance of implant-supported prosthetic restorations is increasing among the group of edentulous patients. If this wish is accompanied by limited financial resources, then simplified therapeutic approaches can be offered, for example, a Locator retained prosthesis. This type of restoration, in conjunction with the implant system iSy® by CAMLOG, is both efficient and financially attractive.

Case presentation
The 76-year-old female patient has been edentulous for over 20 years and wears purely mucosa-supported complete prostheses. In particular, the mandibular prosthesis displays a poor fit and severely restricts the patient in everyday life. After consultation, she decided in favor of an implant-supported restoration, but refused extensive surgical measures. The transgingival healing implant iSy® by CAMLOG was selected as the implant system. Prosthetic restoration was to be performed using a Locator® retained prosthesis. Despite the highly atrophied mandible, elaborate surgical measures (for example, vestibuloplasty) as well as computer-guided planning could be dispensed with. A new, mucosa-supported prosthesis was to be fabricated for the maxilla.
**Fig. 1**: initial situation – the edentulous patient displays the typical aged facial features without her dentures. It is planned to fabricate new dentures for the mandible and the maxilla. Because of the poor prosthetic base in the mandible, a Locator retained prosthesis was to be used after the insertion of four implants (iSy® by CAMLOG).

**Fig. 2**: articulated situation models – impression taking of the situation and cast fabrication respectively, demonstrated a large vertical distance that needed to be bridged. The jaw bone in the mandible is extremely atrophied. In addition, bone resorption in the maxilla led to a sagittal back-shift.
Fig. 3: wax try-in – the pre-operative and intraoperative information necessary for the implant prosthetic restoration in the mandible was obtained on the basis of a functional and esthetic tooth set-up in the patient's mouth.
Fig. 4: x-ray template – the set-up is transferred to radiopaque (teeth) and transparent (base) resin to fabricate the x-ray template. This is followed by planning of the implant positions. Taking the tooth inclination into account, four implants are planned in vestibular orientation and the drill sleeves are inserted into the template accordingly.

Fig. 5: evaluation of the implant positions – a panorama layer x-ray is taken using the inserted x-ray template. This ensures good two-dimensional orientation and confirms that the four implants can be inserted in regio 34, 32, 42 and 44.
**Fig. 6:** pre-drilling – the x-ray template is reduced in the region of the implant positions and the prepared transfer template is repositioned after exposing the bone with an alveolar ridge incision. The position and axial direction of the implants (drill with Ø 2 mm) is achieved through the drill sleeves.

**Fig. 7:** after removing the template, the pre-drilled hole is expanded with a round bur (Ø 3.5 mm) whereby the sphere is sunk to the equator. This pilot drilling is followed by pre-drilling (Ø 2.8 mm) to the desired implant length.
Fig. 8: preparation – the iSy Direction and depth indicators are inserted into the drill holes for form drilling orientation purposes and then the preparation of the implant beds is completed with the single patient form drills included in the iSy Implant set. Preparation is performed with only slight pressure, swiftly and under generous cooling.

Fig. 9: the sterile packaged implants are supplied with gingiva former and multifunctional cap pre-mounted on an implant base. The iSy Insertion tool is used to remove the implant from the packaging.
Fig. 10: insertion – the implant is placed in the oral cavity with the insertion instrument, inserted manually.

Fig. 11: the implant is then driven into its final position using the iSy Torque wrench. The transition from the micro-rough (Promote® plus) to the machined surface is at bone level. The implant base acts as insertion post as well as base for the gingiva former.
Fig. 12: the gingiva formers are mounted on the implant bases via a snap mechanism and the soft tissue is sutured peri-implant free of saliva. The temporary prosthesis is ground at the implant emergence sites, the base is lined with permanent soft plastic and the patient discharged from the dental practice.

Fig. 13: good healing and a healthy peri-implant soft tissue were achieved after the healing period.
**Fig. 14:** iSy Multifunctional cap – the iSy Multifunctional cap is also included in the set together with the iSy Implant (with pre-mounted implant base) and the gingiva former.

**Fig. 15:** the iSy Multifunctional caps are mounted on the implant bases after removing the gingiva formers.
Fig. 16: The multifunction cap can be used for determining the jaw relationship and bite registration. In addition, the multifunctional caps are used for impression taking. After temporary removal of the implant bases, the gingival height of the Locator abutments can now be selected according to the mucosal thickness. The repositioned implant bases with gingiva formers now remain in the patient’s mouth until insertion of the final restoration.
**Fig. 17**: master cast – after screwing the lab bases and lab analogs together and mounting the multifunctional caps, the master cast is then fabricated.

**Fig. 18**: after removal of the multifunctional caps and implant bases, the previously selected Locator abutments are screwed on and a non-precious metal framework is fabricated over the Locator housings for the prosthetic base.
Fig. 19: To obtain maximum precision and freedom of tension of the final restoration, bonding of the four Locator housings should be performed in the patient's mouth.

Fig. 20: Basal view of the non-precious metal framework bonded to the Locator housings in the mouth.
Fig. 21: esthetic try-in – in a second wax try-in, the esthetic, functional and phonetic parameters are checked and then the wax prostheses are transferred to plastic.
Fig. 22: basal view of the completed prosthesis for the mandible. The replacement males are inserted.

Fig. 23: insertion of the prosthesis – the peri-implant gingival situation is free of irritation. The soft tissue adapts beautifully to the Locator abutments.
Fig. 24: the inserted prostheses. The denture in the severely atrophied mandible is retained on the iSy Implants via Locators and displays no movement. The patient is highly pleased with the esthetic and functional result of the restoration.
Fig. 25: owing to the limited budget of the patient, the selected restoration represented an optimal solution. The iSy® by CAMLOG Implant System ensures an efficient and cost-effective procedure with a reduced range of components.