



CASE REPORT

EVO FUSION TWIN

Dentist: **Dr. Marc De Meirsman**

INTRODUCTION

An EVO Fusion Denture is the ideal solution for many different applications in digital removable denture prosthetics. The integrated workflow involves both digital laboratory fabrication methods and established clinical treatment steps.

The materials and process solutions from the Evo Fusion dentures are seamlessly combined with IOS or lab scanning and software solutions. An exclusively developed design software together with coordinated and proven materials including special milling strategies and state-of-the-art milling machines promise exceptional reliability in planning and consistent, predictable results.

Using an IOS scanner, you can scan impressions within a patient's existing complete removable denture in a reliable, predictable, and efficient way.

While these scanners have been optimized to effectively scan these impression surfaces in a seamless, integrated manner, a designated scan strategy will render excellent scan results and a high-quality final new denture. Using this reference denture technique means you can skip the conventional individual impression and bite registration steps.

This Fusion TWIN denture technique is a seamless, technically and clinically integrated workflow. This scan protocol delivers increased patient acceptance and satisfaction and improves the patient experience as it requires only 2 or 3 visits to the practice. By scanning, the patient can keep the existing denture which is used as a reference for the new impression and bite registration.

This 58 yr old female patient reported to the practice with her old denture. She was unhappy with the retention of this maxillary removable denture and with the overall esthetics.

The following step by step protocol was applied:



Dentist: Dr. Marc De Meirsmen

Dr. Marc De Meirsmen studied dentistry at the KULeuven. After his study he started his private practice in Leuven, where he focusses mainly on prosthetic rehabilitations.

Digitalisation and the IOS changed his practice.

He participates as much as possible to national and international courses on digital workflows to be able to use the full potential of the IOS in his daily work.

Marc volunteered for the Modern Dental Care Foundation to treat Madagascar's poorest children.

TREATMENT PROCESS SUMMARY

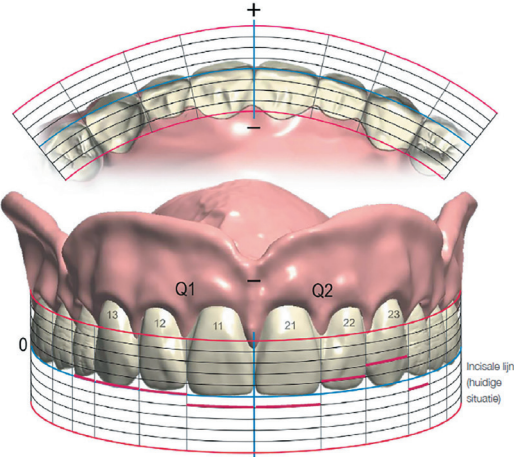
1. SHADE DETERMINATION

On natural teeth lower jaw: A2

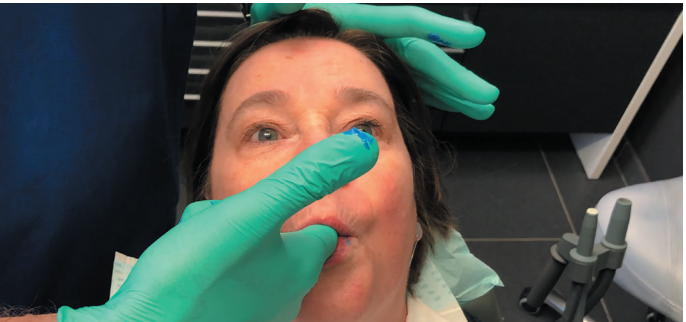
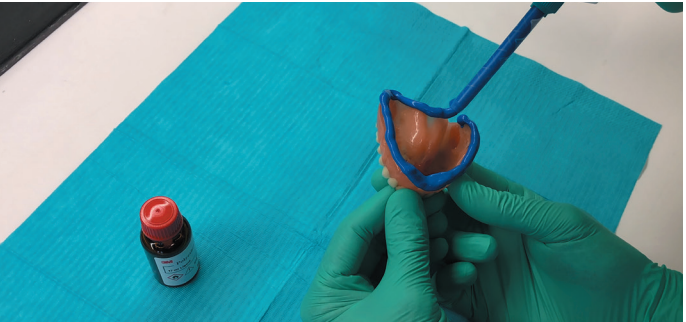


2. V-DIAGRAM

The desired modifications of the Incisal length vertical position for each individual anterior tooth are marked.



3. PROTOCOL: Muco-dynamic individual impression in existing denture



FRONTAL VIEW

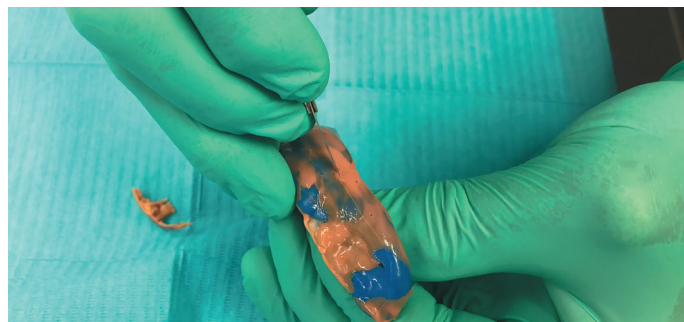
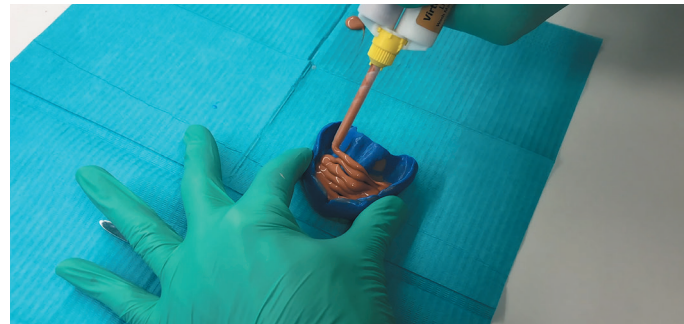
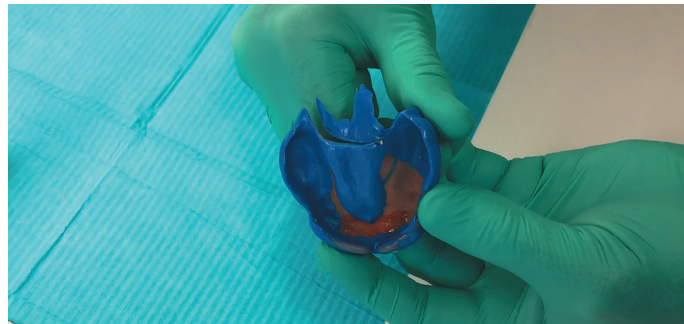
Existing denture upper jaw



NEW

Evo Fusion Twin denture

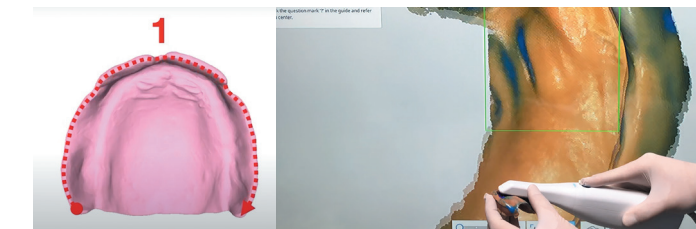




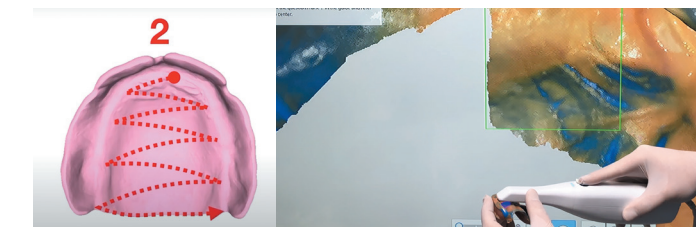
4. SCAN PROTOCOL: For individual impression in existing denture

First remove any excess material from the impression. To scan a maxillary impression in an old denture, we need to capture all anatomical features.

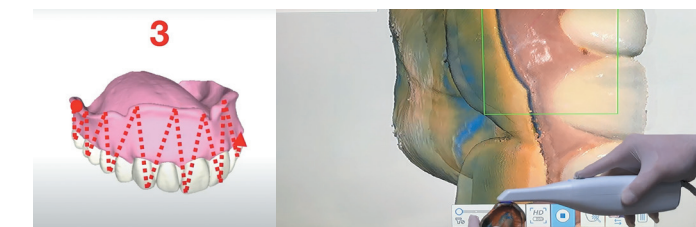
Follow a step by step protocol to achieve an accurate scan result.



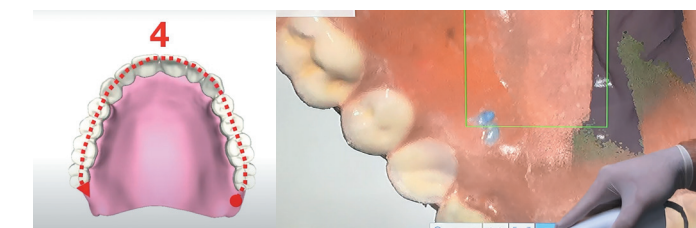
Hold the scanner above the tuberosity area and start scanning along the centre of the residual ridge towards the opposite side, while moving, rotate the scanner on a 45-degree angle and scan the internal/ buccal portion of the alveolar ridge and over the peripheral border. Make sure to capture the entire border.



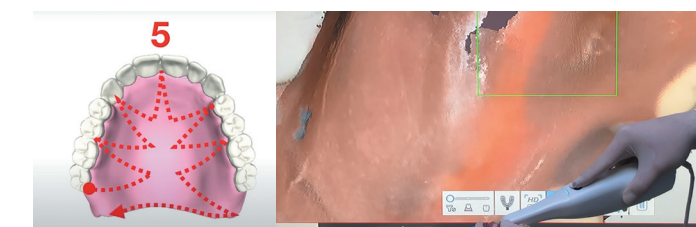
Bring the scanner back to the papilla incisiva and swipe over the palatal area. Make sure the images are accurately stitched.



Continue by scanning the labial, buccal, facial and occlusal surfaces of the denture as a reference for the bite alignment.



Try to partially overlap while scanning the previously scanned border.



Finish by scanning the palatal surface.

5. BITE SCAN (INTRA-ORALLY): increased VDO by 1 mm using a leaf gauge

- 1. Scan right side bite by positioning the scanner 50% on the upper arch and 50% on the lower arch. Continue the bite scan until the bite has aligned.
- 2. Scan left side bite by positioning the scanner 50% on the upper arch and 50% on the lower arch. Continue the bite scan until the bite has aligned.



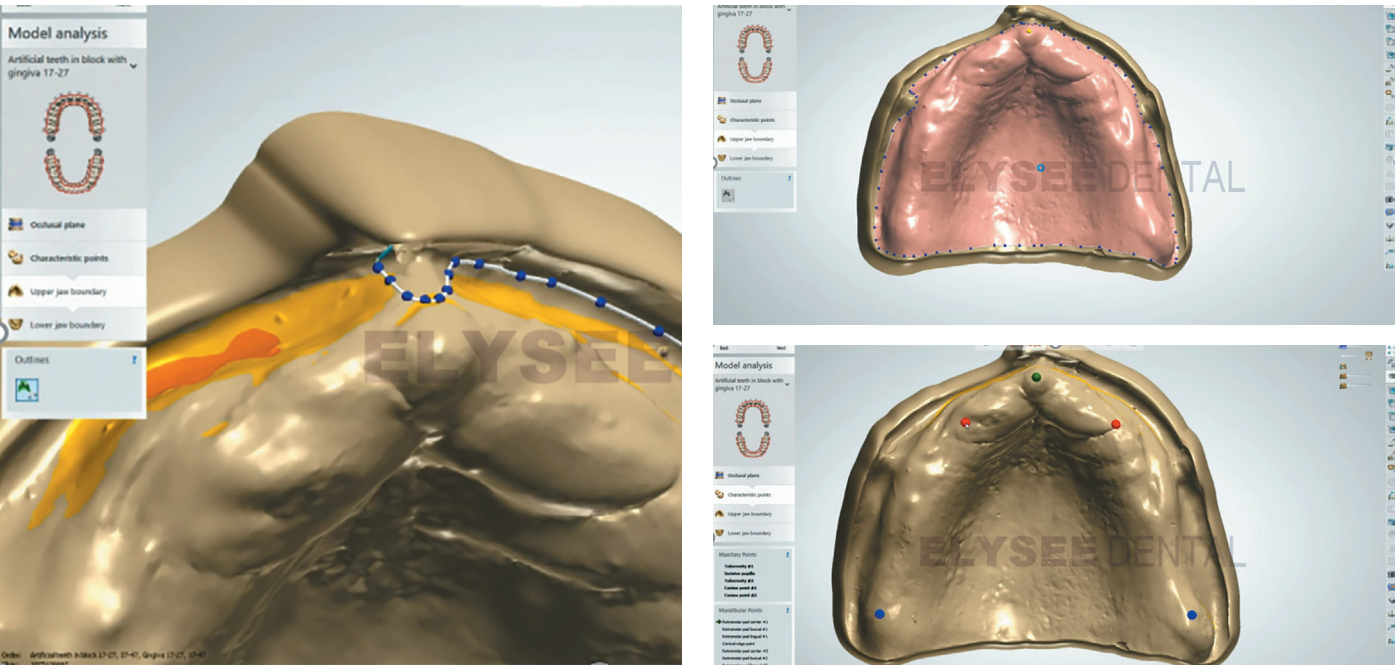
6. SCAN ANTAGONIST LOWER JAW



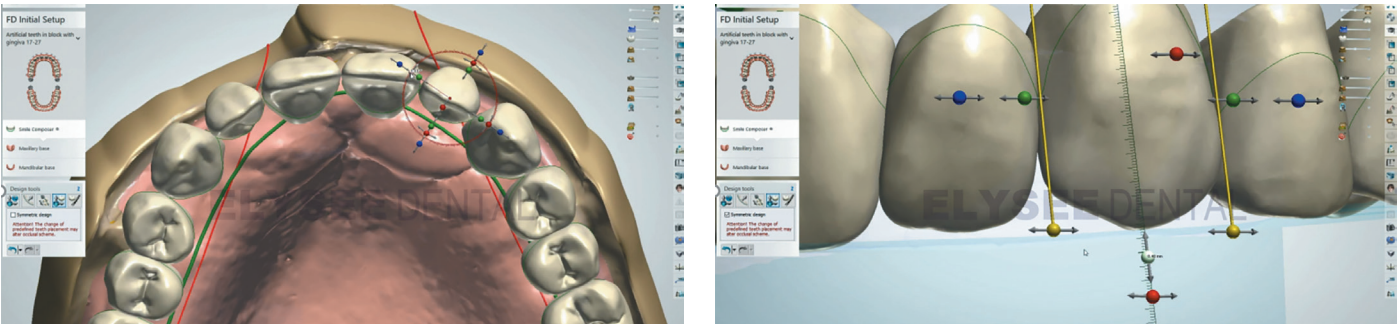
7. PROCESS SCANS AND DIGITAL SET-UP

Intuitive design process
The EVO Fusion digital dentures are individually designed and customized. The system features extensive tooth libraries in addition to sample tooth set-ups, morphing tools, various set-up functions and the latest gingiva designs. It is clear that computer-engineered complete dentures made using CAD/CAM with a digital workflow have several advantages over conventional dentures. The digital workflow can reduce clinical and laboratory time. The patient data stored are invaluable during future appointments.

7.1 MODEL PREPARATION, BORDERS AND SURVEYING



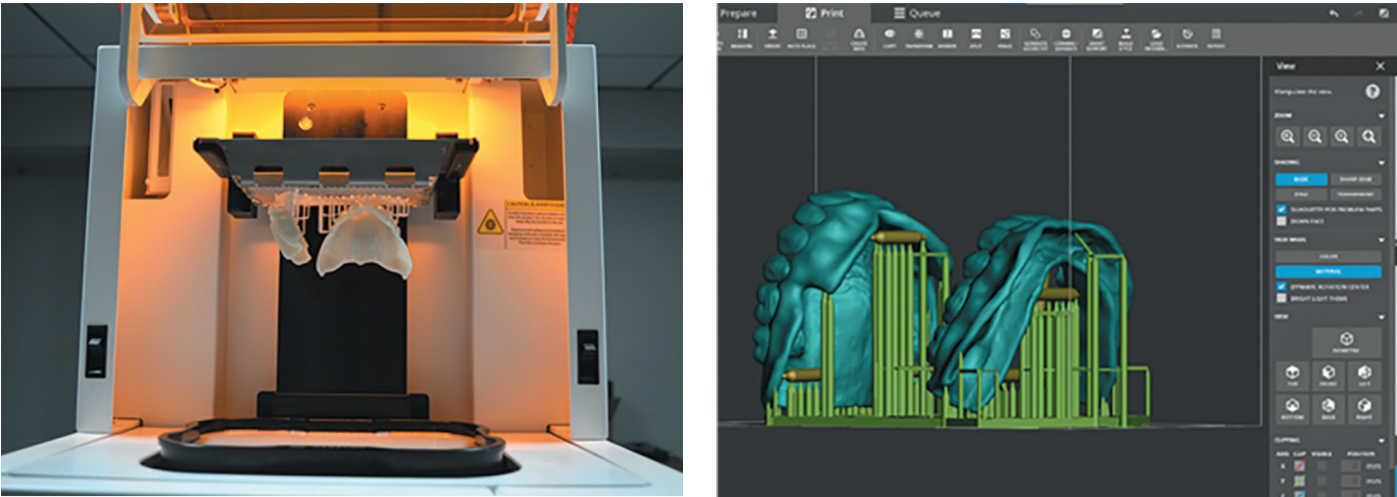
7.2 TOOTH SELECTION AND DIGITAL SET-UP



7.3 CREATING THE VIRTUAL DENTURE



8. PRINTING TRY-IN



8.1 TRY-IN: Checking fit, function, lateral movements and occlusion

During the trial periods for the dentures, the phonetics, aesthetics, and vertical dimensions should be checked. At the time of insertion, the following factors need to be evaluated: retention, stability, occlusion, teeth arrangement, aesthetics, and patient satisfaction. The try-in can be modified and scanned using your IOS.



9. THE OVERSIZED MILLING PROCESS



MD3D: MDE'S Milling centre in Germany (largest denture milling centre in Europe)

Flexible and esthetic

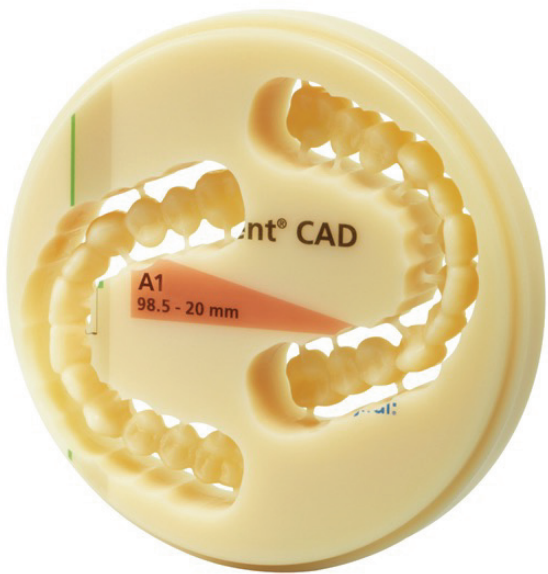
White and pink discs comprised of high-quality tooth and denture base materials are available for the fabrication of removable dentures using the oversize technique. This manufacturing process is characterized by exceptional individuality and flexibility: It enables to tackle the most challenging cases. The materials, the CAD and CAM software and the milling machines all work together smoothly to produce high-precision dentures of the finest quality.

9.1 EVO FUSION Oversized milling - bonding - fine milling strategy - manual finishing and polishing



SEAMLESS AND FAST DIGITAL MANUFACTURING PROCESS FOR FABRICATING HIGH-QUALITY REMOVABLE DENTURES.

- Conventional clinical treatment steps: No change needed
- Less appointments possible
- V-Diagram for easy communication on modifications
- Functional Try-in: evaluate retention, stability, occlusion, teeth arrangement, eastethics and patient satisfaction.
- Only a few manual working steps
- Hardly any disruption in the work process
- Plaster models are unnecessary
- Placement in a digital articulator
- Extensive tooth libraries containing functional set-ups
- Premium PMMA material ensures high strength and biocompatibility
- No polymerization shrinkage or porosity of the material
- No thermal influences of the denture base material
- Reliable results for dental technicians, clinicians and patients
- Customized dentures
- High accuracy, less pressure spots, better fit
- Integrated workflow
- Standardized quality
- Digital files, reproducible



FINAL RESULT AFTER PLACEMENT



Dr. Marc De Meirsman:
“The use of an IOS is meanwhile the standard protocol for almost every indication. For this patient I could scan the old denture as a reference and send the files to the lab while she could return home with her existing denture. The patient does not miss her teeth, like in the “conventional era”, at any moment during the treatment and we end up with a very nice stronger and better fitting new denture. The technique is reliable, predicable and efficient.”

Patient:
“I was really unhappy with my old denture. The fit was terrible and the teeth didn’t look nice. I was afraid to smile and eating became a burden.

Using these modern techniques the dentist and the lab were able to do a spendid job in only 3 appointments. My new teeth look lovely and they fit as a glove. Many thanks to my dentist and his lab team for a job well done!”

