



This patient is my mom and for a long time, she has had trouble with her teeth and lost them one by one at a young age because of very soft bone tissue. She has been wearing the old dentures for over 20 years. So now that I am a dental technician, I decided to make her the best-fitting prosthesis. With this work, I won 2nd place in the VITA EXCELLENCE Award 2023, while still being in my apprenticeship.

UPPER JAW & LOWER JAW DENTURES

Patricia Strimb





[Fig. 1]



[Fig. 3]



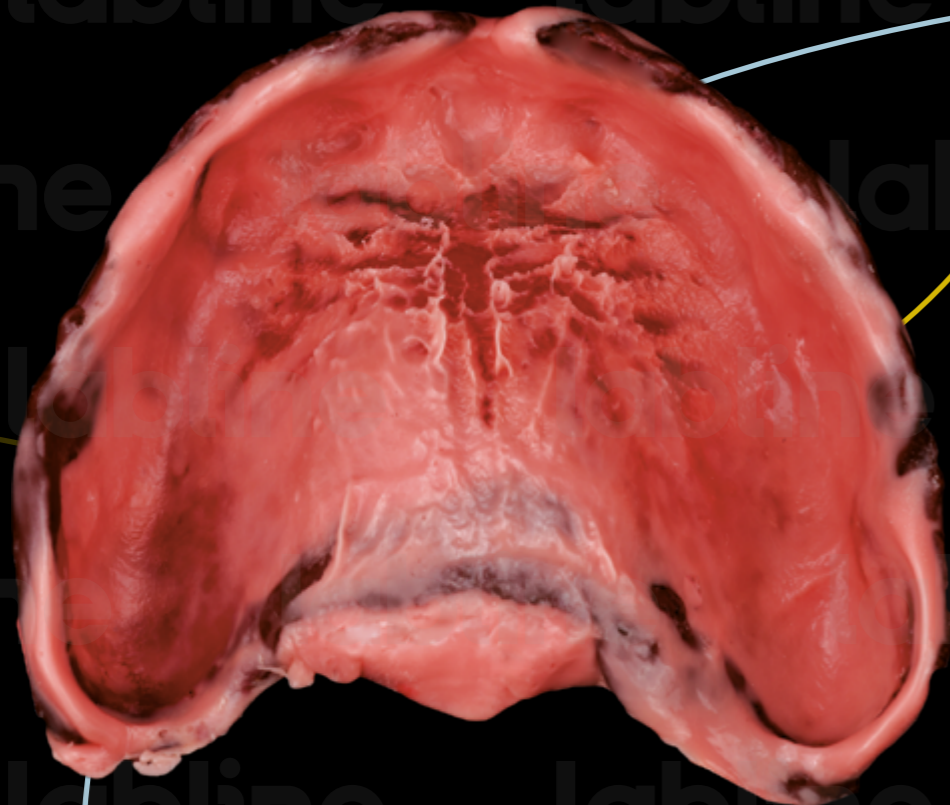
[Fig. 2]



[Fig. 4]

[Figs. 1 to 4] - Initial Situation

First, I scanned in the old dentures and took accurate impressions with their help [Fig. 5], with which we made plaster models [Fig. 6].



[Fig. 5.1]



[Fig. 5.2]



[Fig. 6.1]



[Fig. 6.2]

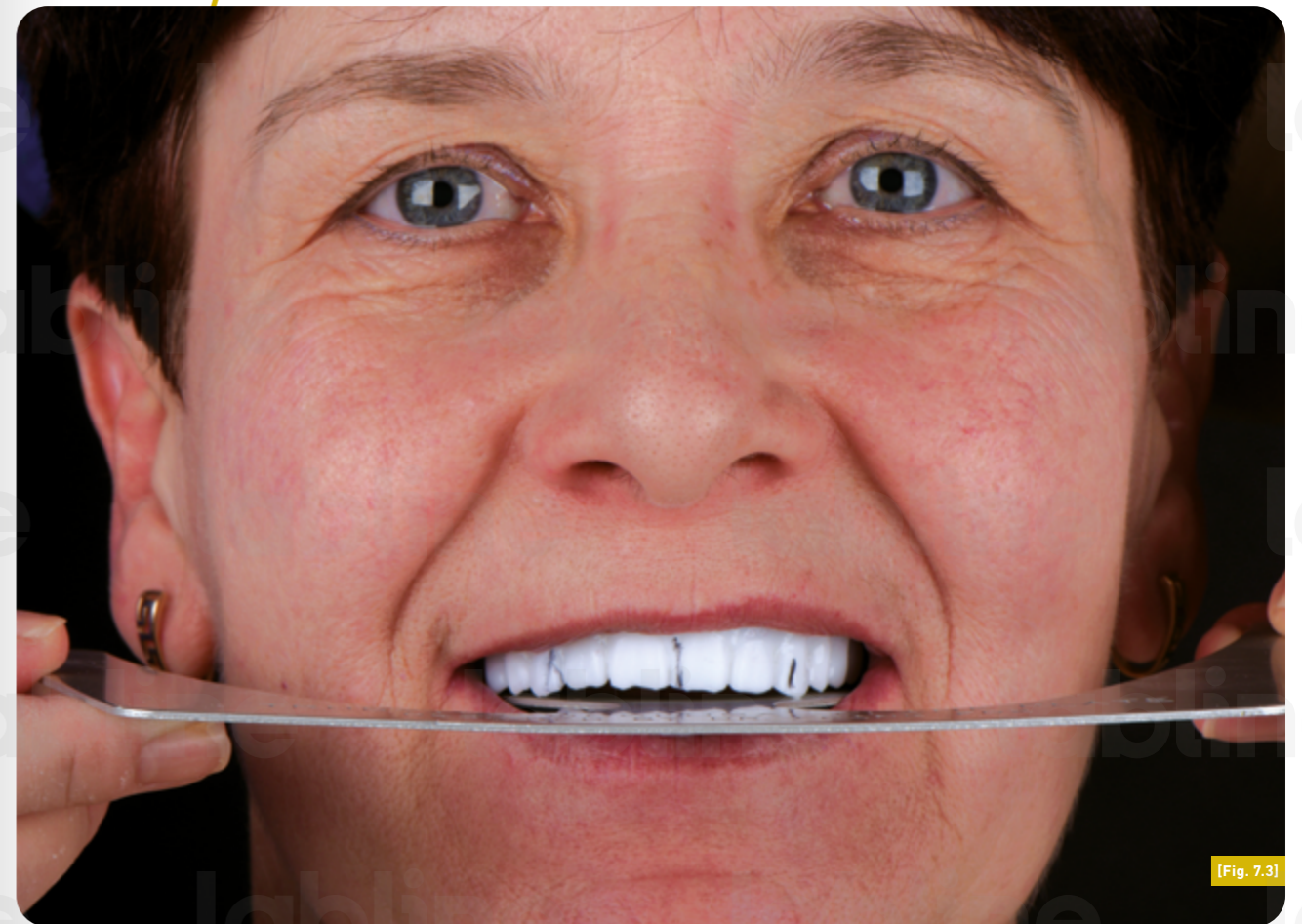
After that, we analyzed the face according to the parameters of her old dentures. [Figs. 7.1 to 7.8].



[Fig. 7.1]



[Fig. 7.2]



[Fig. 7.3]



[Fig. 7.4]



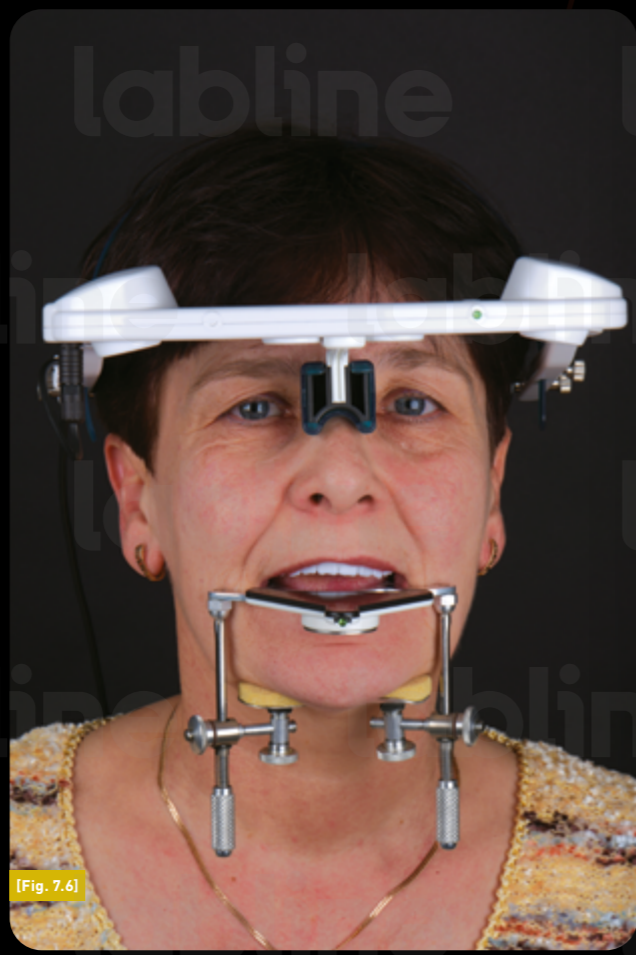
[Fig. 7.7]



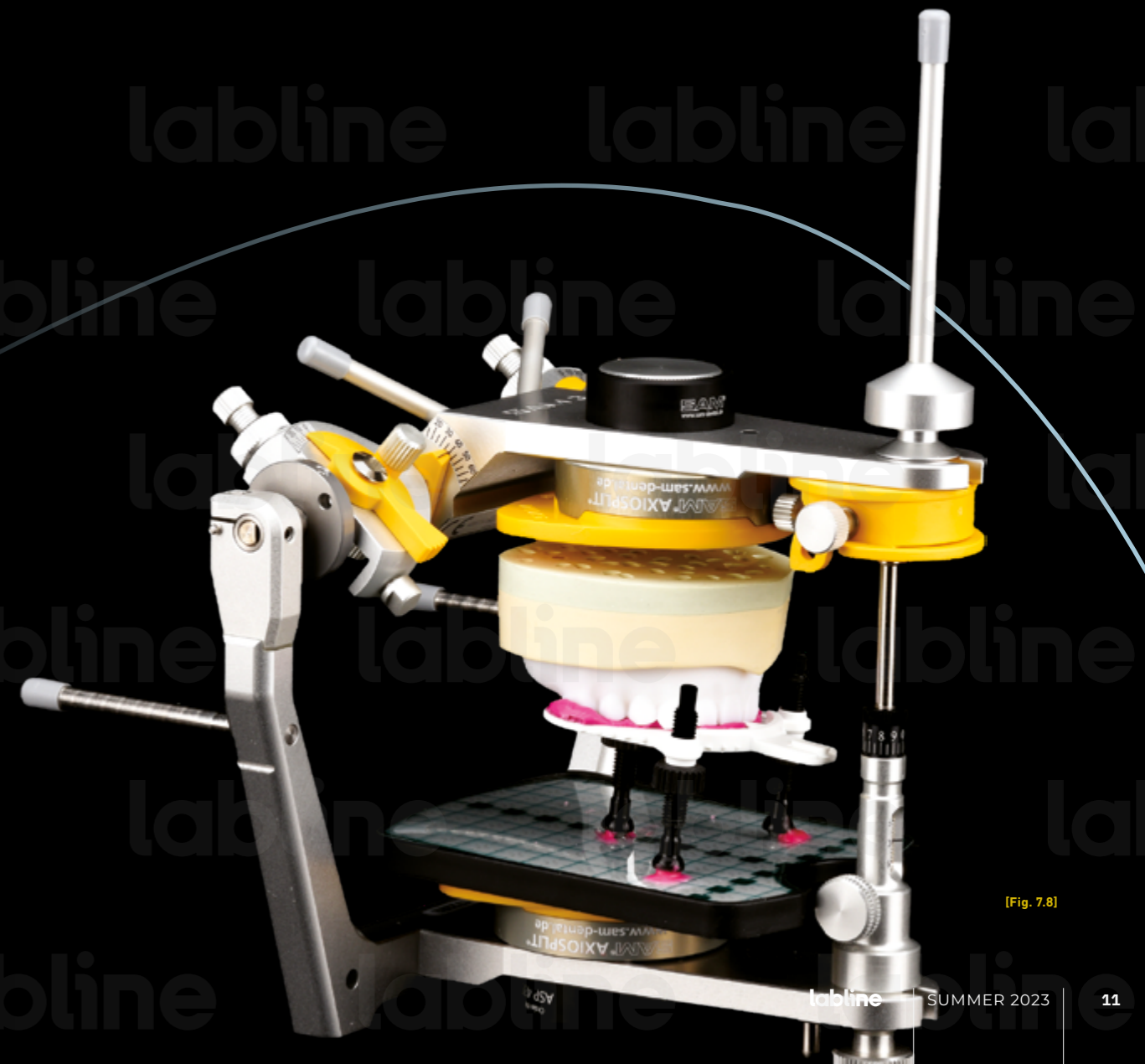
[Fig. 7.5.1]



[Fig. 7.5.2]



[Fig. 7.6]

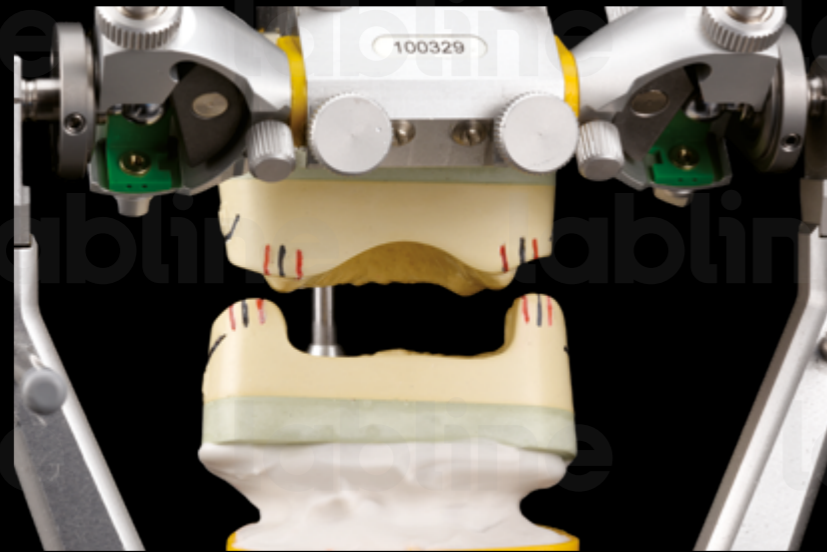


[Fig. 7.8]

The plaster models were fixed in the articulator and the first most important thing was the model analysis [Figs. 8.1 to 8.3].



[Fig. 8.1]



[Fig. 8.2]



[Fig. 8.3]



[Fig. 9.1]



[Fig. 9.2]

A face scan was also made with the Face Scanner [Figs. 9.1 and 9.2] for a better visualization of the position of the jaws in the head and a virtual try-in. To determine the position of the jaws, the system of Zebris was put into action, to better find the position of the jaws in the head and the relation between them. [to better help read and mimic the movements of the patient's condyles.]

For the set-up of the teeth, I decided to 3D print the old dentures and mill away tooth by tooth [Fig. 10], correcting the midline and setting the front teeth more forward, as to fill out the lips, giving the patient a younger look.



[Fig. 10]

An adjustment of the bite was needed, so I heightened it by 2mm, not putting strain on the condyle. The 3D-printed dentures serve as a base for the VITAPAN Excell and VITA LINGOFORM. VITA LINGOFORM is suitable for a set-up with freedom in the centric [Figs. 11.1 to 11.3]. As a result, a prototype was made [Fig. 12].



The gingiva was modelled in pink wax [Figs. 13.1 to 13.3], imitating natural and healthy gums [Fig. 14].





[Fig. 14]

With the help of a silicone negative of the palatal plate, I transferred the original pattern to the wax-up like a stamp [Figs. 15 and 16].



[Fig. 15]



[Fig. 16]



[Fig. 17.1]

Everything was so far successful in the try-in [Figs. 17.1 to 17.4] so the next step was making the prosthesis.



[Fig. 17.2]



[Fig. 17.3]



[Fig. 17.4]

I scanned in the completed wax-up. A negative form in silicone was taken of the situation and was cut around the gums, so that the base of the confection teeth was clearly visible and was also scanned [Fig. 18].

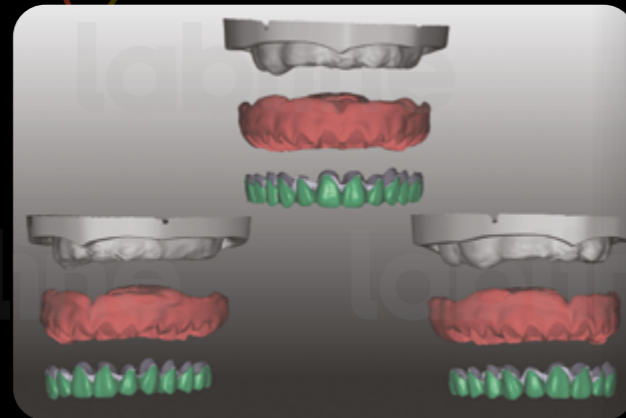


[Fig. 18.1]

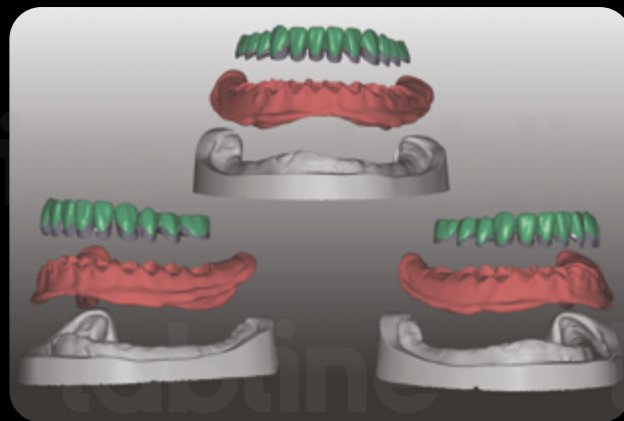


[Fig. 18.2]

The base was digitally constructed in Partial Design, and all the scans were imported into the Zirkonzahn Modellier CAD Software. The prosthesis was then digitally assembled and the form of the base of the teeth was cut out from the final denture base [Figs. 19.1 and 19.2].



[Fig. 19.1]



[Fig. 19.2]



[Fig. 20]

These were milled in VITA VIONIC BASE in Light Pink. [Fig. 20]

The confection teeth were fixed into the cut-outs with the help of a silicone guide [for precision] and cold-curing polymer. The final adjustments were made for the aesthetics and function, as well as the natural colouring with VITA AKZENT LC.



[Fig. 21.1.1]

The finished work was packaged sterilely, as usual in our laboratory, with cold Plasma. The dentures held really well, passing the bite test with no problems and there were no speech impediments or uncomfortable pressure points. The best of it all is a happy patient!



[Fig. 21.1.2]

Afterword:

I was so happy to be able to give my mom better dentures. Being able to give patients a better quality of life is such a beautiful thing. After all, being a dental technician is all about that! Sometimes we get so overwhelmed with our work that we forget that a living human relies on our work, which can make their life better and make them smile again. In this line of work, there needs to be empathy for the patient - if you add that to the mix of your knowledge, you will create amazing cases and most importantly, make a patient happy!

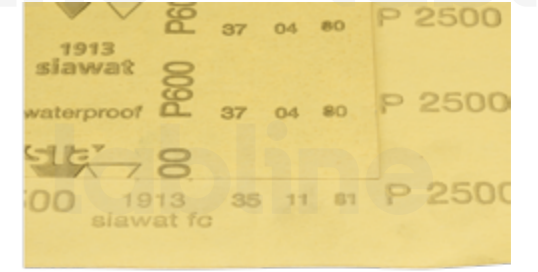


[Fig. 21.2]

[Figs. 21.1 to 21.3] - Silicone guide for the correct position of the teeth while fixing them in

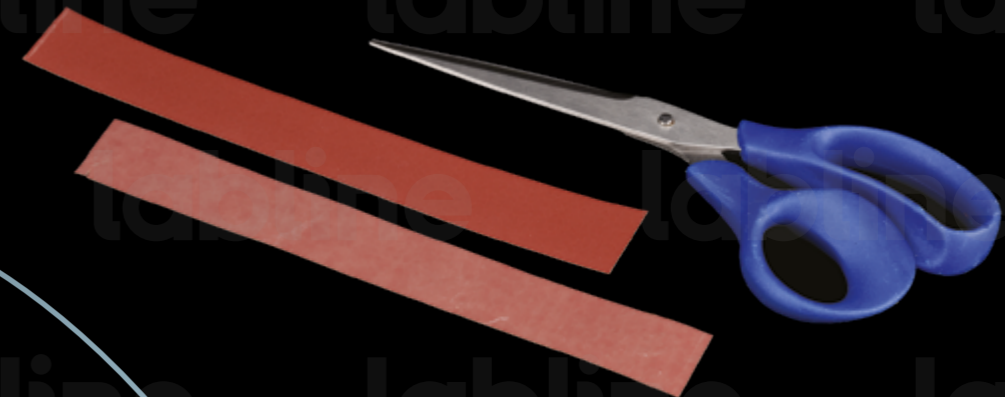


[Fig. 21.3]



[Fig. 22.1.1]

[Figs. 22.1 to 22.2] - Function is the most important part! With the movements transferred to the articulator and the help of wetted fine sanding paper stripes, it is an accurate way to put function in the dentures



[Fig. 22.1.2]

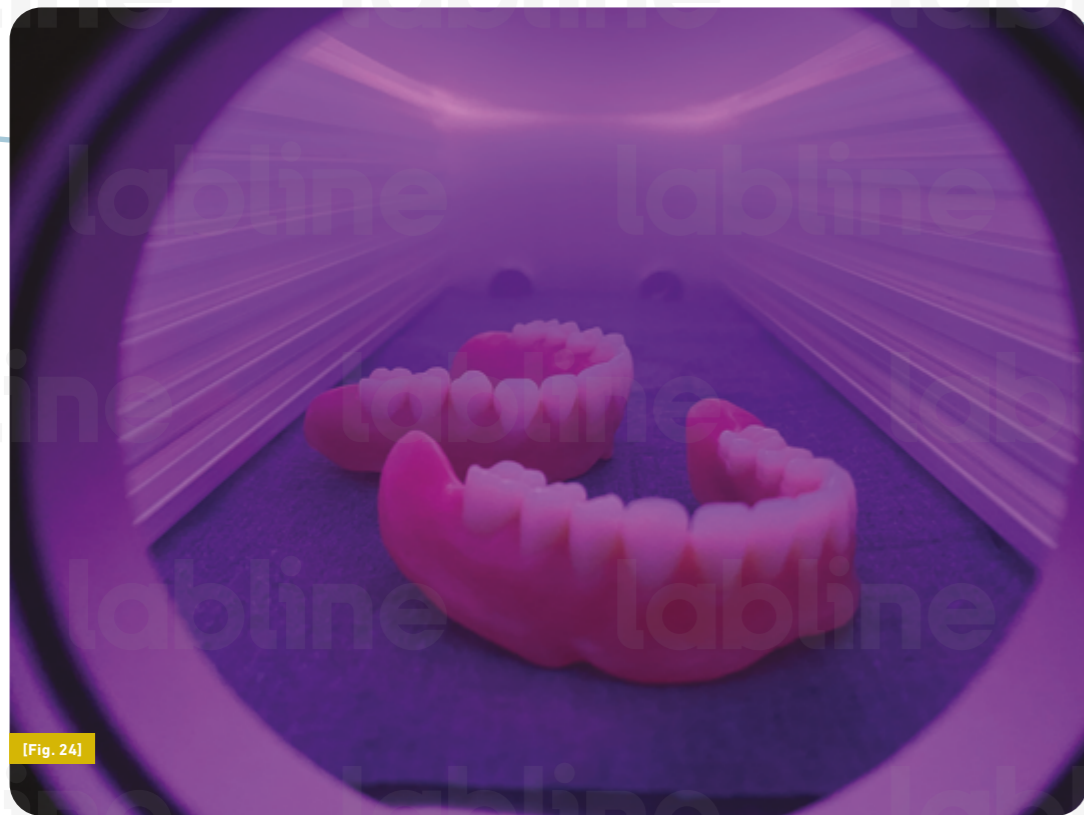


[Fig. 22.1.3]



[Figs. 23.1 to 23.3] - The final work set up to fulfill all aesthetic and functional standpoints.





[Fig. 24]

[Fig. 24] - Plasma vacuum-chamber [with ignition gas, argon/oxygen]. It relaxes the surface, getting rid of oil or any organisms, cleaning the prosthesis profoundly



[Fig. 26]



[Fig. 27]

[Fig. 25] - Equipment to keep the dentures as clean as possible, with the help of an ultrasonic bath

[Fig. 26 to 28] - Final checks for function in the try-in



[Fig. 25]



[Fig. 28]



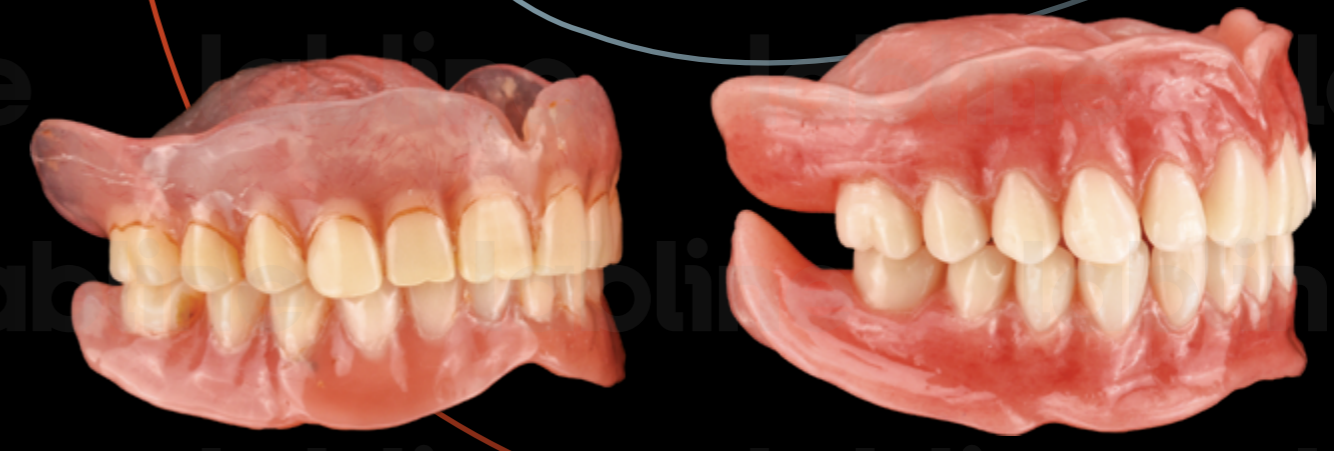
[Fig. 29]



[Fig. 30]

[Fig. 29 and 30] - Final work in the mouth

[Figs. 31 and 32] - Before/after photos of dentures



[Fig. 31]



[Fig. 32.1]



[Fig. 32.2]





Patricia Strimb

Born: 18.07.2000

2021: Beginning of apprenticeship as a dental technician at Arnold Drachenberg Dental Labor, Augsburg, Germany

2022: Continuation of apprenticeship at Zahntechnik Norbert Wichnalek HIGHFIELD.DESIGN, Augsburg, Germany

2022: Various training courses in the field of ceramics, prosthetics, morphology, digital work

2023: 1st place Kuraray Noritake Award

2023: 2nd place VITA Excellence Award 2023

2023: Final exam in February

2023: Continuing working as an employee at Zahntechnik Norbert Wichnalek HIGHFIELD.DESIGN, Augsburg, Germany