USER REPORT

Indirect relining of a complete lower denture using Mucopren soft

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INTRODUCTION

Jaw bones are subject to constant remodeling. Especially in cases in which unphysiological forces act upon the denture, atrophies (shrinkage) are often the case. The fit between the denture base and the dental plate will become increasingly uneven. Masticatory forces will therefore not be transmitted to the bones evenly.

This results in painful pressure points, atrophy of the alveolar bone or loss of suction of the upper denture. That is why complete dentures will have to be relined from time to time.

The preferred method is usually indirect denture relining using a hard, cold-curing acrylic.

However, this method will not be successful with all patients. This is where permanently soft denture relining materials should be used, for example in cases with alveolar ridges displaying strong amounts of atrophy. These materials are able to transfer the arising forces gently onto the alveolar process in order to better absorb masticatory forces.

Further indications include the compensation of mucosa areas with varying resilience, the padding of sharp bone edges and implant relief after the insertion with interim prostheses.

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USAGE AND HANDLING

After receiving and disinfecting the complete denture which has been relined using an impression material, a plaster model is made on which the functional margins are defined and trimmed, and this is then placed in the lower part of a relining apparatus (fixator).

The plaster analogue for the fixation of the denture is made. The upper part of the relining apparatus is set on top and connected to the part of the denture which holds the teeth.

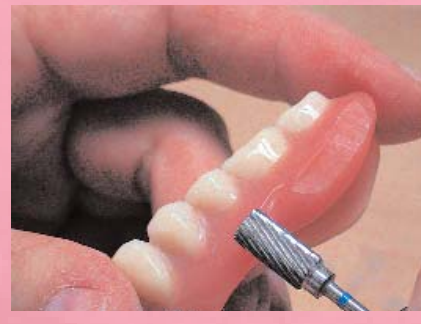
After the plaster has hardened, the relining apparatus is opened and the denture is carefully removed.

The functional margins of the model are reworked evenly. After having prepared the model, we can begin the preparations for the soft denture relining process with Mucopren soft.

Mucopren soft (Kettenbach) is a permanently soft denture relining material made of addition-curing silicone.

First, the impression material is removed from the denture, the old plastic parts are polished to a shine and the denture washed under running water. This brings the advantage of only having to carry out minimal finishing work on the denture base at the transition point between soft and hard material after having carried out the relining process.

The denture is now sanded from the basal side using a tungsten carbide bur until the required, even thickness of the relining material between 1 and 1.5 mm is achieved. In order to achieve a clean, circular transition between the soft relining material and the denture plastic, it is recommended to grind a right angled edge at the denture margin.



After completion, the prepared denture is fastened to the plaster analogue in the upper part of the fixator. In order to achieve a reliable bond between the denture base and the relining material, Mucopren adhesive is applied to the processed surface as a bonding agent.

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Repeat the process after 30 seconds and apply a second layer of Mucopren adhesive. Allow the bonding agent to breathe for 90 seconds before beginning to apply Mucopren soft. Make sure to apply adhesive beyond the margin.

The soaked plaster model is now sufficiently insulated. Only use insulators which form a micro film (e.g. Isolant). Insulating materials based on agar-agar can promote candida growth and are therefore unsuitable.

Mucopren soft is provided in a cartridge system with base and hardener paste in a 1 to 1 ratio. This prevents mixing or dosage errors. The cartridge is put into the appropriate dispensing gun and material extruded without the use of a mixing tip until an equal amount of material comes out of both chambers. Now attach the mixing tip and apply Mucopren soft onto the denture base evenly using a dispensing gun.

In order to avoid trapping air in the material, the end of the mixing tip should always remain in the material when applying it to the denture.

The total working time of 2 minutes and 15 seconds leaves ample time to apply the material.

Reposition the denture into the relining apparatus und fixate the upper and lower sections. If necessary, apply some more material to the edges and then place the relining apparatus in a pressure pot with 50°C hot water for at least 30 minutes.

Once the soft denture relining material has cured, open the fixator. The denture can now be easily removed from the model.

Surplus material and pressing flash can be removed using scissors or a scalpel.

The shaping treatment of the soft denture relining material is best carried out using a cross-cut steel bur (e.g. Figure 82060 from Bush). Burs

with staggered teeth, such as those used for hard plastics, will not work well with permanently soft materials. After completing the shaping process, the finishing touches and polishing are undertaken using soft, elastic plastic polishing discs such as Lisko discs from Erkodent.

Unpolished and rough areas on the hard plastic denture are polished using the usual procedures. Do not use fatty polishing pastes.

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The last step is to apply the Mucopren sealing silicone. Before doing so, the denture is cleaned with hot water (steam jet blaster) and dried. Extrude Mucopren sealing silicone from the cartridge into a container (e.g. ceramic slab) and swiftly apply to the processed surfaces using a one-way brush. Make sure

that the end of the mixing tip always remains immersed in the material when extruding the sealing silicone so that no air bubbles are trapped. The total working time amounts to approx. 90 seconds. Do not touch the sealing silicone for the next six and a half minutes after which it will become dry and non-sticky. In order to achieve the final mechanical properties of the sealing silicone, place the denture in a pressure pot with 50°C hot water for another 45 minutes.

The denture is now ready and after one last final inspection and disinfection it can now be delivered to the dentist.

SUMMARY

In the past, permanently soft relining was always associated with a high investment in time and effort. Heat-curing plastics had to be embedded in a flask and boiled over night. This caused patients discomfort and restricted them to a certain degree, as they had to do without their denture for at least one and a half days. Alternatively, plastics with added softening agents were available for direct application. These softening agents were however released during the wearing time, which caused the material to become relatively brittle and the surface to become porous. The porous surfaces made it easier for micro organisms to settle, as it was now rather difficult to thoroughly clean the deep niches which had been formed. But all that now lies in the past.

Mucopren soft, as an A-silicone, displays permanent elasticity without the supplement of softening agents. The settlement of micro organisms is made more difficult due to the smooth and homogenous surface of the Mucopren soft relining. This is achieved thanks to the novel sealing silicone. The relining silicone and the sealing silicone form an ideal bond, as they both belong to the same group of materials. Even after a longer usage time, neither discoloration nor embrittlement will occur. The surface will remain permanently smooth and easy to cleanse.

The bonding agent Mucopren adhesive guarantees reliable, gap-free bonding between the denture plastic and the permanently soft denture relining material. Mucopren soft can be easily worked on and displays excellent mechanical properties such as high tear-resistance and elongation.

The high resilience and firstrate wearing comfort due to the relief on critical mucosa areas, including areas which have been operated upon after the insertion of implants, are further advantages for patients.

Apart from the above described positive material properties, Mucopren soft stands out due to its easy and time-saving handling which makes it an integral part of our material concept.

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