Roughening, cleaning and preparing

Sandblasters in dental practice are a “blast” for patients

Autor: Dr. med. dent. Hans H. Sellmann, Marl, Germany

Dr. med. dent.
Hans H. Sellmann

- Studies of dentistry at the WWU in Münster
- Head of dental department in the Federal Armed Forces
- 1978 setting up a dental practice in Marl
- 1999 joint practice with Dr. (H) Peter Stickel
- Activity emphases: Panel dentist, medical journalist with more than 1,000 publications
- Treatment emphases: dental medicine, treatment of people having social issues, prophylaxis in children, treatment of disabled people under anaesthetic
- Author of a guideline on how to meet the requirements for reprocessing medical devices in conformity with the Medical Devices Act for the dental practice

Put in the hands of a knowledgeable expert, sandblasting is the method of choice for cleaning and roughening dental surfaces. Long known by dental technicians, there is probably no laboratory in the world right now without a sandblaster which is used for the removal of investment material residues or the upper, porous, inhomogeneous layer.

However, dentists use to work with subtler methods and on finer objects. Although sandblasting has no effect on soft tissue, there are harder substances which we as clinicians have to work on. For those, mini sandblasters offer a suitable treatment option in dental practice.

I have been looking for means and methods to make the cementing process of reconstructions much safer. Or to put in another words, I simply wanted to avoid de-cementing. Every dentist is aware of the complicated situation when a crown or a post becomes loose. Replacing it can be a nuisance not only due to the small treatment fee but also patient dissatisfaction. And what affects singular crowns is even more severe in bridges and abutments. In these cases, Airsonic® is clearly showing its strength.

Placing provisional crowns

I do not know how you do it, but I set my crowns, bridges and telescope attachments “soft remaining”. With this method I think I am in good company, since I recently read that immediate cementation without letting the crown setting in can possibly lead to complaints and claims for compensation.

I became aware of Airsonic® Mini Sandblaster through a handout by Hager & Werken, a dental company from Duisburg, Germany. Although similar devices are available from other manufacturers, the favourable price of the Airsonic® was unbeatable. There is a fitting adapter for all units. Therefore, only two steps were necessary for my Kavo turbine coupling. One click and filling in some streaming powder, the device was ready to go. The results proved convincing from the first attempt. In mere seconds, the inner part of the crown, which was to be cemented, was thoroughly cleaned.

The question remains why sandblasting with the Airsonic® by Hager &

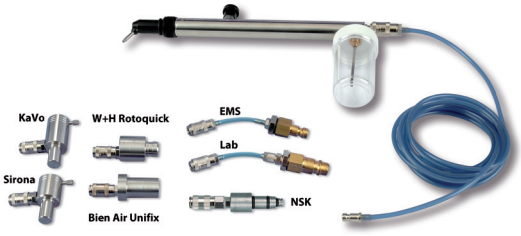

Fig. 1: Components like the connecting hose, blasting powder container as well as optional adapter couplings are included with delivery.

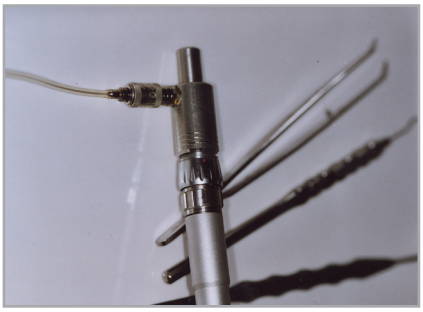

Fig. 2: For every turbine connection (also for the air connection in dental laboratories), there is a fitting adapter coupling.

Fig. 3: The sandblaster lies comfortably in the hand.

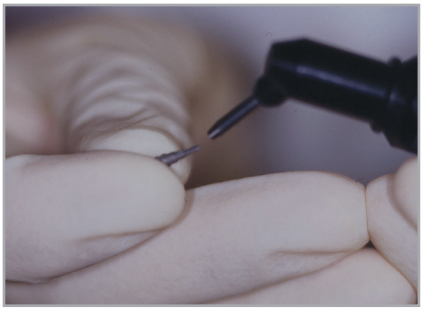

Fig. 4: Prior to cementing a dental post, the surface is roughened with the Airsonic®.

HAGER WERKEN

Werken enhances the adhesion of dental cements. Well, the roughening of the surface during sandblasting results in an overall surface enlargement. These "mountains and valleys" is what we need for the mechanical interlocking which is basically what happens during cementation. There is no chemical process here.

By now, I have optimally prepared numerous crowns, bridges and dental posts for cementation with help of the Airsonic®. Moreover, we found another type of application during treatment of a child patient named David who needed to have his primary molars that were slightly carious restored. In the pictures you can clearly see that with the use of Airsonic® and within a short amount of time we were able to condition them optimally for the placement of occlusal composite fillings. No disruptive bleeding at the surrounding gingiva tissue occurred, which is a common phenomenon during treatment with a powder jet. Of course, the sand has to go somewhere at the end which is why a good suction technique is required. But this is something we already need by working with a turbine. The Airsonic® Mini Sandblaster is delivered with an optional adapter for coupling it quickly to the compressed air supply in dental practices and laboratories. There, it has its uses as well. Hager & Werken also offers the mobile Airsonic® Absorbo Box which ensures clean and fast working environment of abraded material remains while not extra suction system is needed. The changeable filter absorbs the abraded material remains reliably.

Meanwhile, the sand blaster has shown to be an almost indispensable tool for our practice. It is not only cost-effective but is also very reliable. The integrated valve is what the Airsonic® differentiates from all its competitors that need the pressure to be controlled through the hose. With help of a pneumatic valve, the hose can be conserved and guarantees a long life time.

Airsonic® Mini Sandblaster, standard nozzle 60° and 20 g powder	REF 401 080
Airsonic® Absorbo Box	REF 401 082
Airsonic Alu-Oxide 50 µm, 500 g	REF 605 084
Airsonic Alu-Oxide 90 µm, 500 g	REF 605 086

Adapters on request

Fig. 5: The "loose" crown is thoroughly cleaned before re-cementation.

Fig. 6: Initial caries in the distopalatinal fissure of tooth 55 (mirror image).

Fig. 7: After the cleaning with Airsonic® (with dental dam), a small defect was also detected in the central occlusal fissure.

Fig. 8: Filling with tooth-coloured composite material after bonding. Owing to the roughening of the enamel, etching was not necessary.

Hager & Werken GmbH & Co. KG
Ackerstraße 1, 47269 Duisburg
Tel. +49 (203) 99269-0 · Fax +49 (203) 299283
www.hagerwerken.de · info@hagerwerken.de

HAGER WERKEN

2014102802