

## MULTIPURPOSE LM-MULTIHOLDER – A WORKING ANGLE AND WORKING END WONDER



DDS, MS, PhD  
Kari P. Koskinen



Lic. of dentistry  
Sirpa Pöyry



Lic. of dentistry  
Ansi Taulio-Korvenmaa



In corrective dental procedures there are often situations, where the area being treated is in a difficult position, inaccessible to ordinary instruments. Solving this problem was the basis for designing LM-MultiHolder instruments. The end result was an unmitigated success, in that few instruments have as wide a range of angle variations as the LM-MultiHolder. Two instruments, four different shank angles and working ends that can freely rotate 360° allow the user even greater access to difficult areas from the mesial, buccal, lingual and distal sides. This rationalised working action increases efficiency and saves valuable time.

MultiHolder instruments and tips have been in daily use by many dentists for quite some time. We asked three renowned dentists to tell us about their experiences with the instruments. Below is a summary of their comments and recommendations for the various working ends of the MultiHolder.

### LM-Contact Formers

LM-Contact Formers are transparent tips for the making of correctly formed and tight contacts. The contact former is made from an optimally hard material, stronger than used in many other instrument alternatives, which is crucial to contact formation. The material is also

beneficial in other aspects: the tip doesn't stick to filling materials and light curing is possible through the tip.



The problem encountered in fillings is not contact formation, but whether there is contact with the neighbouring tooth and how tight that contact is. From a patient standpoint, an open contact is usually worse and more damaging than the caries itself. Today's composite fillings still shrink by at least 2% when light cured. In order to compensate for this shrinkage and make the contact tight, the matrix must be very firmly pressed against the neighbouring tooth. The triple-angled MultiHolder provides the proper amount of axial force needed for contact formation.

LM-Contact Formers come in a comprehensive range of sizes (four different size alternatives). When forming contacts, an adequately large tip should be used, so that force can be applied laterally. If the tip is too small, it can open the matrix cervically, which is naturally to be avoided.

The height of contact formers is right and its contouring good. If the tips had been too shallow, it would have been possible for the filling material to get on the wedge. This locks the wedge into the filling, thus requiring a great deal of work to remove it. The optimal form of the tips even allows the contact former to be used in forming the surface of composite fillings.

### LM-Cervical Matrices

LM-Cervical Matrices are used to make smooth, anatomically correct composite fillings along the gum line. There are four different cervical matrix sizes according to the shape and type of tooth. The structure of the working ends is optimal and the material flexible. These properties serve to reduce the risk of tissue damage during procedures.

Cervical matrices can be used as supports when setting matrices. If the tooth itself does not have an enamel wall, the matrix can be used to form a foundation to which the matrix tightener can be firmly mounted. Cervical matrices can also be used as tools in the making and repair of bridges.

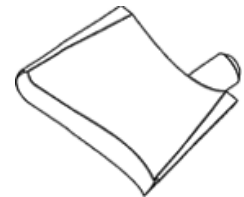
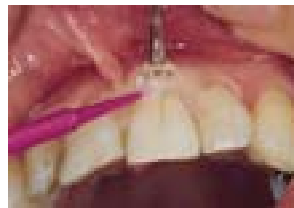


Compared to many cervical matrices on the market, the advantage of the LM-Cervical Matrix lies in its transparency. This transparency allows the user to see in advance whether the material being applied has spread evenly and without any defects. Today's composite fillings are increasingly able to adhere to all types of surfaces, whether to instruments, matrices or cavities. When placing a matrix on the applied material, the user must be fast, so that any movement of the matrix prior to light curing will not

result in pull out. Pull out causes air bubbles to form between boundary surfaces, which is of course undesirable.

### LM-Gingival Retractors

LM-Gingival Retractors (three different sizes) facilitate procedures at the gum line. The gingival retractor is used to gently draw the gums back for filling, finishing or prosthetic polishing. As with cervical matrices, gingival retractors are also flexible and have a well-designed structure, thus making it easier to prevent tissue damage such as gum recession and bleeding. The advantage of the LM-Gingival Retractor lies in its transparency, which allows for control over retraction force and amount. LM-Gingival Retractors are disposable, thus resulting in savings on instrument costs and sterilisation cycles.



Gingival retractors have a variety of applications and can be used in several areas of dentistry. In prosthetics gingival retractors can be used in, for example, setting bridges, where the retractor is used to achieve a good finish. Gingival retractors can also be used to avoid drilling into the gums when making preparations at the gum line. If caries spreads into the gum line or under the gums, it is difficult to avoid contacting the gums when working on the gingival side. If there is any contact, the resulting bleeding of the gums can make procedures difficult to perform. Bleeding slows down the filling procedure and can stain fillings or result in tissue loss.

The gingival retractor is also helpful in periodontics, because it can be used to diagnose such conditions as gingival calculus. Gingival retractors are also excellent tools in endodontics. Drawing the gums away from the area under

treatment increases visibility and the diagnosis of vertical fractures can be made more accurately.

Gingival retractors can also be used in connection with soda cleaning in hard to reach areas. The purpose of soda cleaning is to quickly and effectively clean the approximal gaps and variations in the tooth surface all the way to the gum line, without causing the gums to bleed. Gingival retractors are extremely effective at eliminating this risk.

### **LM-Implant Scaler**

The LM-Implant Scaler is designed for the removal of supragingival calculus and is an extremely effective instrument in the maintenance of implants. Because scalars are made of plastic, they will not harm the titanium abutments of implants. The third tip section of the blade is slender and thin enough to effectively clean the titanium abutments of the implant. The scaler blade is otherwise sufficiently rigid and has good purchase. The advantage of the LM-Implant Scaler lies in its disposability, which negates the need for sharpening.



MultiHolder instruments have a wide range of applications. This article has presented the experiences with and recommendations for the MultiHolder given by a specific group of dentists. Using shanks that can reach difficult areas and replaceable working ends, the MultiHolder can be easily transformed into an instrument specifically designed for the user's needs. How would you use the MultiHolder?

Participating dentists: DDS, MS, PhD Kari P. Koskinen

Lic. of dentistry Ansi Taulio-Korvenmaa (specialized in prosthodontics)

Lic. of dentistry Sirpa Pöyry (specialized in cariology)

Interviews conducted by Jonna Tuura of LM-Instruments Oy