

New LM tools for removing and pressing crowns and bridges

There are surely as many techniques for removing crowns and bridges as there are people performing them. The tools generally used for this include a wide variety of chisel shapes and sizes; fumbling around with these in front of the patient doesn't exactly inspire confidence. Thus, there is a clear demand for dedicated crown opener instruments on the market.

LM-Instruments Oy has just released its Crown Off, an instrument design for the removal of crowns, bridges and temporary laminates. We interviewed the father of these new instruments, Dr. Jaakko Ensiö DDS, who approached LM-Instruments with his product concept, and who provides tips and indications for use for this handy tool in the following interview.

How did this all start?

Ensiö explains that he had been using an electrician's chisel together with a drill to remove crowns and bridges for quite some time: "Even though the chisel works well for the procedure, it had many drawbacks as a tool," says Ensiö. "Reaching molar areas was particularly difficult, because the chisel shaft didn't have any angulations. Because of this, it was hard to maintain control when using force, and sometimes I couldn't apply enough force for the procedure. It was also hard to follow the torsion angle with a straight blade," explains Ensiö, outlining the problems of using a standard chisel. He mentions that problems are also caused by the chisel shaft, which is difficult to sterilize, and chisel blades, which are usually made of chromed steel – chromed steel will corrode before long: "And using a chisel isn't very reassuring to the patient," says Ensiö.

From idea to instrument

LM decided to rise to the challenge and set about to making prototypes. We varied blade thickness, width, grind and angle. Finally, we opted for an approximately 1 mm thick blade, with a

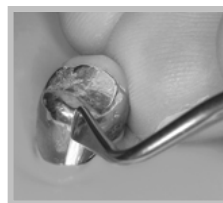
3mm wide edge tapering up from the base. In addition to angulations, plant manager Eino Lumme suggested rotating the working end 45°, which has been found to be handy in, for example, cord packing. In clinical tests it was found that a rotated working end ensures optimal reach. After a few months and several prototypes, the instrument was ready for productification.



Crown Off
LM 767-768 XSi

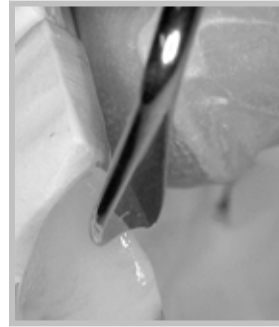
Instrument application ranges and operating principle

The Crown Off instrument is a versatile tool: "The removal of crowns and bridges, even temporary, is the most important application," emphasizes Ensiö, adding that the instrument is also extremely well suited to the removal of temporary laminates. Ensiö suggests that the instrument can also be used to turn up, for example, partial prosthetics: "Excavators might have been previously used for this procedure, but now Crown Off should be given a try," states Ensiö. "To sum up, I can say that the new instrument is suitable for use in general levering and removal applications," says Ensiö, listing the indications for use of the new instrument.



Crown removal is as easy as 1-2-3 with LM's new Crown Off instrument. The instrument is inserted longitudinally into a burred groove and simply rotated as if spreading the groove.

Dr. Ensiö explains the Crown Off operating principle as follows: "A groove is burred from the base of the crown to the occlusal surface. The groove is burred down to the cement. The instrument's working end is inserted longitudinally into the groove and then rotated to spread open the groove. The upward taper and sharp, precise grind of the blade keep it firmly in place inside the groove and will not slip. Turning the tip will loosen the crown and lift it from the instrument's tapered form. This is repeated, if necessary, at different points along the groove." This allows for the easy, and now ergonomic, removal of crowns and bridges with the optimally angled, silicone handle Crown Off instrument," says Ensiö at the end of the interview.



The flat tip of the Crown On instruments has a hollow, which stabilizes the instrument on the occlusal surface, preventing it from slipping when pressing the crown down.



Crown On I (single-head)
LM 761 XSi



Crown On II
LM 762-763 XSi

Also tool for crown placement

In addition to Crown Off, LM-Instruments Oy also launched two Crown On instruments, straight and double-angled. The original idea for these instruments came from a Norwegian dentist named Kardel. Ceramic fillings and crowns are often placed with one end of a mirror shaft or an amalgam burnisher, instrument slippage on the surface of the tooth often presents a problem. A hollow in the Crown On blades prevents them from slipping off of the biting surface, thus making these new instruments a worthwhile acquisition for the procedure in question.