



**Patric Freudenthal** graduated as a dental technician in 1989 at the University of Malmö, Sweden. Before that he worked as a dental assistant between 1984-1986. After graduating, he worked as a technician for 10 years before starting his own lab with Björn Stoltz. IQDENT has worked with implants, CAD-CAM and aesthetics during all this time, with focus on bioinert materials. Since 2004, Patric has been lecturing on different topics, such as: implants, CAD-CAM, aesthetics, full ceramic etc. Function & aesthetics with technology is the key-instrument in his everyday work. He is a member (and board member) of The Dental Technicians Guild.

# Maximal aesthetics within a micro-layer!

## A new, efficient concept for monolithic workpieces

by **Patric Freudenthal** IQDENT / DTG, Sweden

The start of all-ceramic restorations with zirconium dioxide ( $ZrO_2$ , often referred to as zirconia) was only a small change from PFM, in the sense that the coping was only in a different material. However, the digital way of working made its entry in the dental lab with CAD (computer-aided design) and that saved us some money in the production

(Fig. 1). This has been important for the technique to succeed because the coping was expensive and not always the best. More detailed information can be found in my previous article about zirconia as a predictable material (Zirconia: Aesthetic, strong and predictable – first published in GC Get Connected 14, 2019).

Moment	PFM Time	Zirconia Time
Model	20	20
Spacer	3	6
Applying casting channels	2	0
Invest	2	0
Prepare alloy	5	0
Cut casting channels	3	0
Adjustments	5	0
Polishing	4	3
Margins	5	5
Wax-up	15	0
Investment material	3	0
Burn-out	4	0
Devest, sandblasting etc.	6	0
Try-in	3	1
Porcelain	40	40
<b>Total time</b>	<b>120</b>	<b>75</b>

**Fig. 1:** Production time comparison charts between the traditional PFM-crown and the first generation of zirconia



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