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He graduated from the INS La Ferreria prosthetics school in Barcelona (Spain) in 2011. Since then, he continued his training with dental technicians who are renowned worldwide.
In 2020, he founded his own laboratory "MP Dental Studio" in Malaga (Spain). Here, he focuses on aesthetics, fixed prosthetics and CAD/CAM design.
Since 2022, he is collaborating with GC, and he published his first article in the same year.

All in with GC: A full mouth restoration from A to Z

By Maximiliano Paterlini, Spain

Being able to easily rely on your trusted brands has many benefits to keep your laboratory running smoothly. This implies knowing the products and experiencing their worth during the actual labour. Our biggest challenge is to rehabilitate a full mouth and restore lost functions, provide comfort while offering a natural aesthetic appearance that is personalised for each type of patient (shape, size, age, etc.).

The entire range from GC, from the provisionals to the final ceramic restoration, perfectly complement each other. It takes off unnecessary steps from the equation to simplify our regimen, because I can use the same way of working throughout the entire range. This way, it is easy to specifically cater to the benefits you're looking for, depending on the case.

From the provisional restorations, characterised with OPTIGLAZE color, to the selection of Initial LiSi Blocks with their natural opalescence and finally, the complete Initial IQ ONE SQIN system (Lustre Pastes, Spectrum Stains and SQIN ceramics): The following case evidences the high potential of the synergies, resulting in a satisfying result in the most efficient way.

A 52-year-old woman came to the office of Dr Tomasella, expressing her concerns about the aesthetics of her teeth and her desire for a radical change in the shortest time possible, without undergoing orthodontics. Her teeth were restored with composite restorations of inadequate aesthetic level and were disproportional in size. The smile arc was irregular (Figs. 1,2).

Figs. 1 and 2: Initial situation

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Temporary full-arch PMMA restorations

The dentist prepared the teeth from 16 to 26 and from 36 to 46 for future individual crowns.
After having received all collected information, the provisional restorations were made in the form of two bridges; restorations were joined to facilitate the placement and retention in the clinic. The bridges were made of PMMA (Figs. 3, 4) and were characterized with OPTIGLAZE color (Fig. 5).

The OPTIGLAZE was applied to all teeth: B Plus was applied to the cervical and middle area, Lavender and Blue in the incisal zone and Orange in the interproximal zone.

Especially in this type of complex cases, these temporary restorations are important to see and evaluate study shapes, sizes, proportions, occlusion, functionality and aesthetics (Figs. 6-8).

Figs. 3 and 4: Full arch, temporary PMMA restorations

Figs. 5: OPTIGLAZE color (GC)

Figs. 6: Full arch, temporary PMMA restorations

Figs. 7: Full arch, temporary PMMA restorations

Figs. 8: The temporary restorations, characterized with OPTIGLAZE color (GC), in the mouth.

Individual lithium disilicate ceramic crowns

Once the aesthetics, shape, proportions and occlusion were verified and adjusted, the restorations were milled from 24 blocks of Initial LiSi Block, shade A1 LT (Figs 9,10). From 14 to 24 and 34 to 44, a small vestibular reduction of 0.2-0.3 mm was made; the more posterior crowns were left fully monolithically. The shade A1 LT (low translucency) was chosen because all restorations were full crowns; a high translucency could lead to loss of value in this case, resulting in a more greyish appearance of the crowns.

Figs. 9 and 10: The crowns, milled from lithium disilicate CAD/CAM blocks (Initial LiSi Block, GC), before characterization.
SUPER TIP: For thin veneers of 0.1-0.3 mm, we can use HT (high translucency; given that the substrate is favourable) and very aesthetic results can be obtained by simple painting, but in case the total restoration thickness of the veneer exceeds 0.6mm and it is covered with enamel, the value will drop and it will look gray in the mouth if the underlying ceramic is too translucent.

Being a complete rehabilitation and favourable substrate, a cut-back and microlayering was chosen, which gives natural aesthetics thanks to the combination of the Initial IQ Lustre Pastes ONE, Initial Spectrum Stains and Initial IQ SQIN ceramics – the 'ONE SQIN' concept (GC).

For the application of the Lustre Pastes and Spectrum Stains, the teeth were devided into 3 basic zones: a cervical, middle and incisal zone. Before starting with the characterization, all crowns were covered with a thin layer of L-NFL (Neutral Fluorescent). Then, a mixture of L-B + L-NFL was applied to the central and lateral incisors to create a subtle chromatic effect throughout the cervical area. On the canines, pure L-B was applied, to give them a bit more chroma than the incisors, like in natural teeth.

In the middle area, it is interesting to create a light refraction effect. Therefore, a mixture of L-V (Value) and L-1 (Enamel Effect 1: Vanilla) was applied on the incisors, creating a "belt" between the cervical and incisal areas.

Finally, in the incisal area we create a "translucent zone" (light absorption edge) L-3 (Enamel Effect 3: Light Grey) + L-6 (Enamel Effect 6: Dark Blue) + SPS-18 (Illusion 1) + L-10 (Enamel Effect 10: Twilight) and the mamelons a mixture of L-V + L-1 + L-B + SPS-4 (Light Terracotta).

After the firing with Initial Lustre Pastes ONE (Fig. 11), the anterior teeth (up to the second premolar) were slightly sandblasted at very low pressure (0.8-1 bar) at a distance of 10 cm to remove the gloss and to create micromechanical retention for the subsequent layer of SQIN ceramics. In the cervical zone, Body-B + Enamel E-58 were applied; Translucent TO (Opal Booster) was applied on the mesial and distal edges. GUM Neutral (colourless and absent of additional fluorescence) and Enamel E-58 were applied in the incisal area between those edges, blending the bands.

The morphology was created in the wet stage; the "Form & Texture Liquid" gives the ceramic the plasticity to easily model it with a brush. The restorations were finished with Panther rubber polishers (Sirius Ceramics).

Figs. 11: Crowns after application and firing of Initial IQ Lustre Pastes ONE and Initial Spectrum Stains (GC). This first firing, fluorescence and colour are added and also serves as the connection firing.
SUPER TIP: Initial LiSi Block exhibits natural opalescence; therefore, the halo effect can be created by wearing the structure at 45°. In case the halo needs to be enhanced a little more, pure SPS-4 (Light Terracotta).

Figs. 12 and 13: Crowns after application and firing of with Initial IQ SQIN ceramics (GC) SUPER TIP: To avoid loss of value, it is important to control the enamel thickness and not exceed it. By respecting the vestibular reduction of the CAD design, it is avoided that the restoration will have a grayish aspect.

Figs. 14: The final surface with a microtexture that is suitable for this patient.

Conclusions

The most important factors are stability, control, reproducibility, time and aesthetics:

Stability of the material means that shrinkage of the material is practically nil. The crown can be finished in a single ceramic application.

Visual control is present at the same time as we apply the different effects: "what you see is what you get"

Reproducible because a "step by step" work protocol can be established where the margin of error is exponentially reduced.

Time is drastically reduced by using this technique and protocol.

Figs. 15 and 16: The final result in the mouth.

Aesthetics is what all dental technicians are looking for, and nature is approached thanks to the opalescent effect of Initial LiSi Block, the 3D effect of the Initial IQ Lustre Pastes ONE combined with Initial Spectrum Stains and the ceramic coverage of Initial IQ SQIN.

This case demonstrates how easy it can be to restore a full arch with the right materials and the right protocol. The result is a fully functional and aesthetic work with a natural appearance.

The patient was very happy with the result and excited to see herself for the first time. The responsibility we have as dental technicians is very high. It is not only about aesthetics, but also about a patient's health and wellbeing.

This is possible thanks to "ALL IN with GC".

Figs. 17: Comparison of the situation before (left) and after treatment (right).