

## SPECIFIC ARTICLE: MARIA CAN LAUGH AGAIN

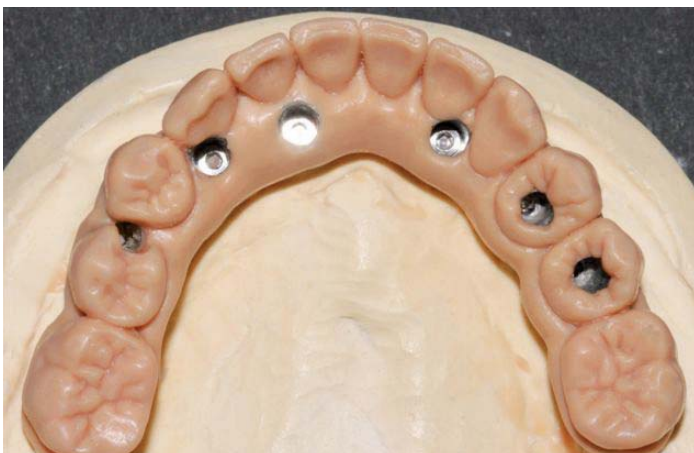
*Saga Zirkonia - Zirconia update from Zirkonzahn*

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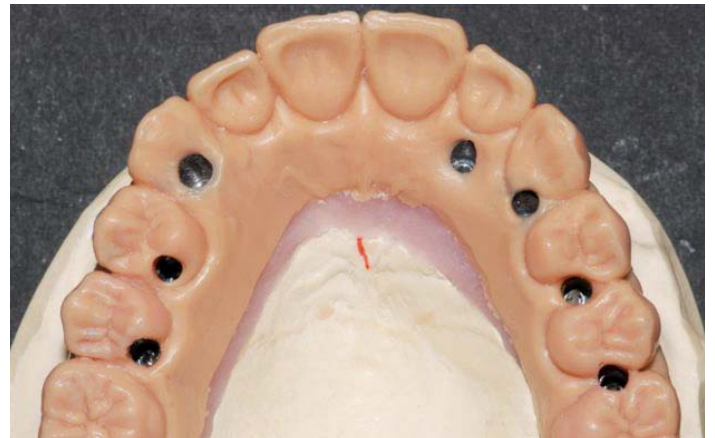


*Fig. 1: Maria can laugh again*

**M**aria was a rather unhappy lady when she presented at her first visit. 'Dental hygiene' was a foreign word in her family. As a result she'd suffered multiple tooth loss already in her younger years. She did well in her vocation and was no longer willing to wear acrylic dentures. She decided to go for fixed implant restorations in both, upper and lower jaws. Fortunately we are now able to produce complete full-zirconia bridges of any span or size with the new PRETTAU Zirconia from Zirkonzahn. We are glad to say, casting issues with PFM-framework concerning fit and porcelain chipping have truly become a thing of the past.



*Fig. 2: Lower with 6 implants*



*Fig. 3: Upper with 8 implants*

The entire case was diagnostically waxed up onto factory implant componentry (denture teeth can be used alternatively as long as they measure up to aesthetic requirements). Via silicon duplication the wax-ups were transferred into hard-copies made from shrinkage free polyurethane (1:1 FRAME-resin by Zirkonzahn).



*Fig. 4: Full diagnostic wax-up*

The hard-copies were tried in situ and checked for correct occlusion and aesthetic requirements (any necessary alterations are easily carried out at this stage). Seeing the prospect of her evolving reconstruction, Maria got so enthusiastic she wanted to keep the mock-up frame work for good.



*Fig. 5: Upper and lower after sintering*

After our 'try-in' success we manually copy-milled the frame with the Zirkograph in Prettau Zirconia. 'Green' frame shading prior to sintering was carried out with the unique PRETTAU Zirconia Colouring Liquids. A little experience is required when using the ZIRKONZAHN 'paint-on' brush-technique as the true colours do not instantly show but become evident after the sinter fire only.

### *The Fascination of Zirkonzahn.*



*Fig. 6: Upper after sintering*

Removed from the sinter furnace and a little glaze liquid brushed over just for fun, the nature-like appearance of the full-anatomical-contour zirconia teeth becomes instantly evident.



*Fig. 7: Lower after sintering*

When complex frameworks like these fit snug and tension free back on the master model with minimal adjustment technicians inevitably experience their 'cloud nine' moment. Especially when knowing in full confidence that no dimensional change will take place from this stage even with multiple subsequent firings. Who doesn't remember well the psycho-stress of porcelain-veneering large PFM-bridges made from precious or palladium-free bio alloys.

### *Zirkonzahn surely soothes the mind.*



*Fig. 8: Framework in articulation*

After sintering, the framework is tried once more to confirm there are no deviations or changes to the original plan. In our case, no corrections were required whatsoever. Again, Maria wanted to keep the bridges on the spot, only the (at this stage) slightly anaemic looking tissue flanges cast some doubt.

### *Zirkonzahn because restorations fit.*

The accuracy of transition from wax to resin to zirconia is simply ingenious. Neither a bridge's fitting surface contour nor the screw access channels have any effect on the aesthetic outcome when using Prettau-Zirconia: Colour problems or challenges with shadows as often experienced with PFM-work are non-existent.



*Fig. 9: Maria's first viewing after sintering*



*Fig. 10: View of fitting surface*



*Fig. 11: Screw access channels*

Screw channel position is not an issue because the high strength of Prettau-Zirconia allows for a relatively thin wall thickness. Channels are later plugged with tooth-coloured composite after issue.



*Fig. 12: Screw access channels*



*Fig. 13: The final result*



*Fig. 14: Upper occlusal view*



*Fig. 15: Lower labial view*

The tissue flanges are overlaid with ZZ-Tissue ceramic of varying colours. Vitality is achieved through contrasts between pink, blue and purple tones available in the ZZ-Tissue-Keramik set of shades. Cervical areas are not subject to any functional stress and can be veneered without fear of fracture.

*Zirkonzahn inspires.*



*Fig. 16: Maria's old "F/F acrylics"*

Palatinal and lingual areas are contoured to accommodate phonetic requirements. The teeth themselves are enhanced with surface stains. An overall layer of fluorescent glaze is finally applied which enhances the restoration's vitality. Its effect adds to the depth and attractive translucency of the Prettau-bridge.

The direct comparison of acrylic dentures to Prettau-bridges demonstrates the significant differences in vitality and brilliance between both.



*Fig. 17: Prettau in action*



*Fig. 18: Prettau in thru-light*



*Fig. 19: Upper Prettau-bridge in situ*



*Fig. 20: Lower Prettau-bridge in situ*



*Fig. 21: Maria has every reason to smile.*

Maria has reason to smile again: Her third set of teeth looks as if they were her second, given by nature. **All artificial however so real!**

## In summary:

Prettau Zirconia can be seen as 'white gold' with special characteristics. Frame transition 'wax to resin' and 'resin to zirconia' ensures a predictable outcome without fear of nasty surprises or failure: The resin try-in controls functional and aesthetic parameters at a very early stage in the development. Deficiencies are easily rectified on the spot. Therefore, post-sinter frame changes are unnecessary. Thanks to the high translucency of Prettau Zirconia we are able to produce aesthetically pleasing restorations with solid, full anatomically contoured zirconia. Special paint-on technique: Colouring takes place before sintering; shading is enhanced by surface staining and glazing.

ZZ-Fluorescent-Glaze is applied with the final glaze bake. Porcelain chipping of cusps or incisal edges is a thing of the past. Zirconia as the material of choice offers a significant improvement in the areas of aesthetics, longevity and hygiene requirements compared to conventional porcelain-veneered metal framework or acrylic restorations. 'Wear and tear' as seen with acrylic does not occur. The higher initial production cost is more than compensated for by the greatly extended longevity of Prettau Zirconia.

**VIVA ZIRKONZAHN!**



*This case was milled with the manual ZIRKONZAHN milling system.*

***Move The World With Your Hands!***

*Luigi Steger*