

Virtual Drop-On Technique

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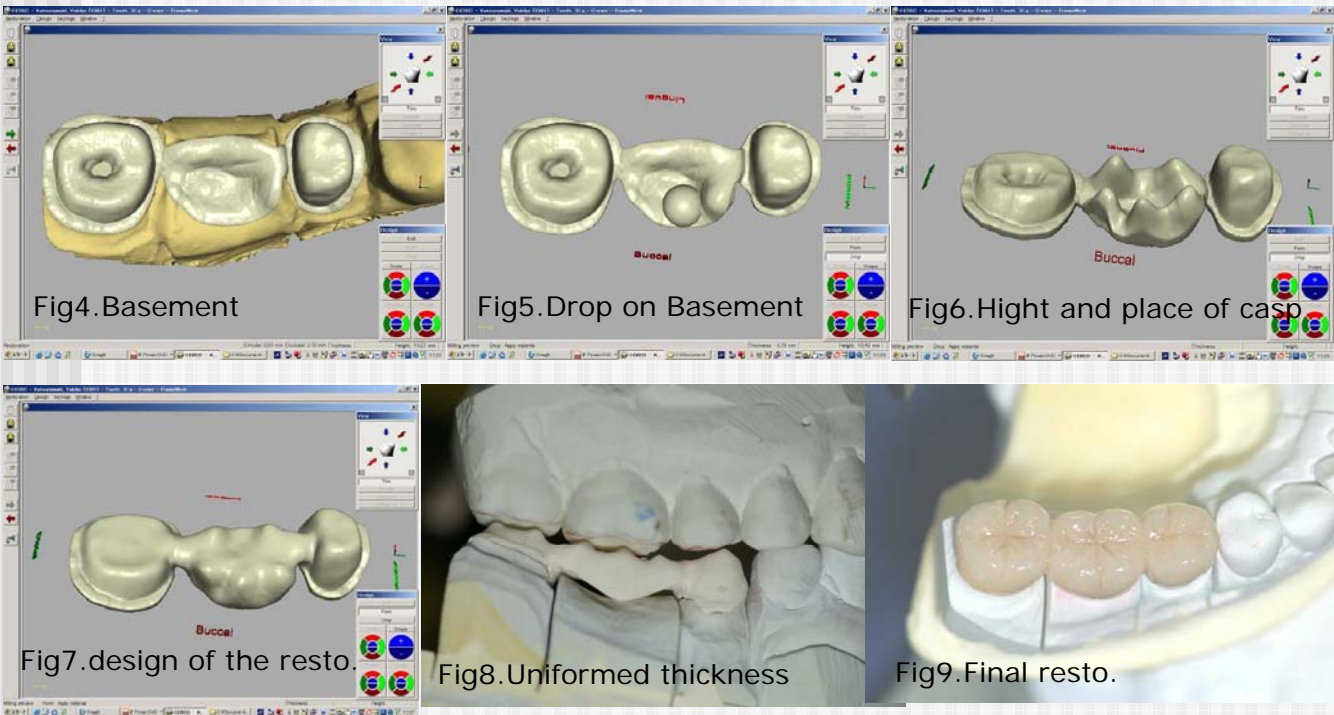
The Drop-On technique was developed by Dr. Peter K. Thomas. While moving a master cast on an adjustable articulator, the lab technician determines positions and heights of several occlusal cusp first, then wax up a functional occlusal form. I would like to report I got a nice result using the Virtual Drop-On Technique combined with some tools of the Cerec3D software R2005. I could make all-ceramic bridges with the virtual drop-on technique on these virtual working casts.

Materials and Method: After making individual trimmed dies on a master cast following the standard crown-bridge procedure in Lab-side, I covered the gap between the abutments with wax. I then used wax to simulate the desired shape for the bottom of the pontic, and powdered TiO₂ on this master cast. (Fig.1,2) After taking new silicone bite registration on cast, I trimmed it.



Fixing the Cerec3D camera with a Ney's surveyor so as not to touch powdered cast while taking multiple OIs, I took total of 60 OIs of the working cast and the antagonist using the Cerec3D software Crown-Framework mode (Fig2.). On this virtual working cast I added data for the bridge framework's bottom line. (Fig3.)

Then using virtual drop-on technique on this virtual working cast, I designed a bridge framework on the screen of the Cerec3D Imaging unit. (Fig4,5,6,7,8,9)



Result: It is possible to use the Virtual Drop-On technique to make bridgework.

Conclusion: To avoid a porcelain fracture problem, it is important to keep an uniformed thickness of the layering porcelain. (Fig.8) The virtual drop-on technique is very useful method to achieve this.