

Why Custom Abutments?

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There seems to be a lack of understanding of the advantages of using custom designed implant abutments in restoring single tooth and multi-unit implant supported bridges. I still see request for restorations asking our lab to prep stock abutments for a crown or a bridge and often wonder why the research information about custom abutments is not being disseminated to those who most need it, the restoring dentist.

When I attended Nobel Biocare's World Conference this past spring I saw an amazing amount of conference time dedicated to discussions about preserving gingival integrity and maintaining papilla. At the Midwinter in Chicago information on studies were presented where re-growth of three plus millimeters of papilla was realized with properly designed zirconia abutments. All this begs the question why would you then not use custom abutments on all of your implant restorations?

Construction of effective custom abutments requires a functional knowledge of natural tooth root emergence profiles. Nobel Biocare offers a line of "Esthetic Abutments" fashioned after averaged scans from their *Procera* customers. Even *Atlantis Abutments*, a company that became quite successful in the custom abutment arena, has been criticized by some researchers for the convex emergence profile of their computer generated abutments. With the knowledge presently available, and the research ongoing, using off the shelf abutments, even those that are almost right, does not make sense for your patient financially are restoratively.

What considerations then should go into the design of custom abutments?

- *Emergence profile- It should be concave and not over-extend tissue contours created healing abutments. Study natural teeth, get to know how central, lateral, premolar roots are shaped and try to mimic that shape when possible. This is especially important with a thin bio-type.*
- *Don't overextend sub gingival margins- It's important to keep the margins at a level that makes cleaning cement easy and using zirconium abutments eliminates the worries of the gingival halos. I like to work around 1mm facially .75mm interproximally and at tissue level lingually.*
- *Design for esthetics and strength- Abutments should support the restoration without interfering with the esthetic development of the final prosthesis. The use of diagnostic wax-ups can be a invaluable toll in accomplishing this outcome.*

In today's market I can see no value added reason for not incorporating custom abutments as a part of your restorative package.