

PREDICTABLE IMPLANT ABUTMENT SELECTION

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Over the past decade, the dental profession has witnessed an influx of abutment designs and techniques. The promises of aesthetics, predictability, and ease, however, are seldom realized. The fact is that every tooth to be replaced has its own anatomy, gingival tissue contour, bone level, tissue tone, adjacent teeth, and other variables that are hardly "predictable." One or two types of abutments cannot be used in case designs with predictable results. With the same abutments used on all cases, an aspect of treatment may be compromised (ie, occlusion design, aesthetics, food impaction, or the presence of a black line on the tissue). Proper diagnosis for each tooth in each situation must be discussed with the surgeon and restorative dentist.



Figure 1. ZI Real abutment (3i-Biomet, Palm Beach Gardens, FL) three months following Stage I implant placement.



Figure 2. MAC-pressed ceramic crown two weeks following abutment placement.

A proper waxup of critical areas (eg, cemento enamel junction levels, interproximal spaces, and available bone with or without augmentation procedures), may possibly provide an acceptable result. Four parameters have remained constant: the width of the implant, depth of tissue, angulation of placement, and clearance of the opposing arch for available material. These parameters enable clinicians to select the appropriate abutment.

Abutment selection, however, cannot be accomplished until the tissue has properly healed. In this new generation of implant prosthetics, every implant clinician must have a provisional abutment applicable for all cases, to aid in determining the shape of the tooth being restored, and the final abutment. In the aesthetic zone, during immediate restoration, the provisional abutment can help scallop the tissue and maintain the height of the gingiva. During delayed healing placement, zirconia abutments are the first selection.¹ A customized gold abutment may be the next choice due to its warmer color tone. In the posterior region, the issue is not related to color, but to anatomical shape that aids in proper occlusion. Many teeth that require replacement may be larger than a 4-mm or 5-mm prefabricated abutment. Unfortunately, the discrepancies are realized after the restoration is completed and the radiograph is taken.

The future seems brighter with the introduction of computer-generated implant abutments (ie, Encode, 3i-Biomet, Palm Beach Gardens, FL). After the initial learning curve of all parties (ie, implant surgeon, restorative dentist, laboratory technician), the final results are simpler, cost effective, and more predictable. Computers may potentially produce the appropriate abutment for every situation.² Until then, clinicians will continue to strive for the best restorative options, using personal experience and techniques to obtain the proper gingival architecture.

References

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