



# A Chairside Solution for Replacing a Missing Tooth: Bonding a Pontic to a Braided Orthodontic Wire

Written by Chad Duplantis, DDS | August 2020

## Introduction

The limited life expectancy and finances of elderly patients often make permanent restorations both impractical and unaffordable.

LuxaCrown by DMG, a semi-permanent crown and bridge material, makes it possible for dental professionals to devise creative chairside solutions that meet the patient's aesthetic, functional and financial needs.

## Case Report

A 73 year-old male with a Parkinson's condition that was progressing at an accelerating rate presented with a restoration in need of replacement. A long-time patient, he had worn a simple Maryland-type bridge replacing tooth #7 since high school. The previous pontic was a denture tooth attached to the adjacent teeth by resin. It had been re-bonded several times. A few years ago, the pontic had finally broken, failed and been replaced by braiding some orthodontic wire and bonding it. Since this procedure, the braided orthodontic wire had stayed in place and was firmly attached. The adjacent teeth were virgin teeth with sound enamel.

In view of the excellent condition of the adjacent teeth, the patient's lack of disease and his desire to be financially conservative, it did not seem appropriate to propose a full coverage fixed partial denture or a lab-fabricated Maryland bridge. Instead, it was agreed that the best option was to create a semi-permanent restoration capable of lasting up to five years.



Figure 1: Pre-op image of patient showing braided orthodontic wire and void at #7



Figure 2: LuxaCrown semi-permanent crown and bridge material



Figure 3: Post-op image with #7 semi-permanent pontic in place



A pre-formed crown in the pontic site was used to create a matrix with alginate substitute. The adjacent teeth and the braided wire were air-abraded. The semi-permanent crown and bridge material (LuxaCrown; DMG) was placed into the matrix and the new pontic was fabricated (Figure 2). A groove was placed in the palatal surface, which was then mechanically bonded to the wire with composite and universal adhesive. The mesial of tooth #6 and distal of tooth #8 were etched, an universal adhesive was applied to the teeth and the pontic. A small amount of flowable was placed to aid in bonding to the adjacent teeth. Once the pontic was secured, the incisal edge was cut back, and a small amount of A1 composite was added. The restoration was then polished using the A.S.A.P. Direct kit. (A.S.A.P., Clinician's Choice)

The patient was very pleased with the comfort and aesthetics of the semi-permanent restoration, and with a fee that was about half that of a single crown and substantially less than a conventional or Maryland bridge. Should wear or physics cause the restoration to de-bond in five years or so, LuxaCrown will again provide the option of an easy, affordable, chairside replacement.

### **Author Bio**

Dr. Chad Duplantis has been in private practice for the past 20 years in Fort Worth, Texas providing cosmetic and restorative dentistry to patients of all ages. He is a lecturer and key opinion leader for Catapult Education. Dr. Duplantis lectures nationally on various aspects of digital and CAD/CAM dentistry, as well as other aspects of restorative and implant dentistry. He is a fellow in the Academy of General Dentistry.