

BruxZir Solid Zirconia Crowns and Bridges 2-year Clinical Performance Report

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RATINGS:
Excellent + + + + +
Very Good + + + +
Good + + +

LONG-TERM CLINICAL PERFORMANCE

Glidewell Dental Laboratories

(800) 854-7256 USA, (888) 278-0414 Canada
www.glidewelldental.com

Purpose

The purpose of this clinical study was to determine the clinical performance of **BruxZir Solid Zirconia Crowns and Bridges** (Glidewell Dental Laboratories) over a two-year period. **BruxZir**, a full-contour monolithic zirconia, has been available to the dental profession for about four years. Over that period it has experienced an exponential rise in use in the US (Figure 1).

Clinical Evaluation Protocol

At recall, over 550 full-contour, monolithic **BruxZir** restorations (crowns and bridges) had been placed. All restorations were fabricated at Glidewell Dental Laboratories and were cemented with self-adhesive resin cement or adhesive resin cement.

Of the 378 **BruxZir** restorations observed at recall in August 2013 (Figure 2), there were:

- 301 posterior single crowns
- 30 units - 10 three-unit bridges
- 24 units - six four-unit bridges
- 10 units - two five-unit bridges
- One 3-unit inlay bridge
- 10 implant crowns

BruxZir restorations were evaluated in the following categories:

- Resistance to fracture or chipping
- Esthetics
- Resistance to marginal discoloration
- Wear on zirconia and opposing dentition
- Retention

Restorations were evaluated on a 1-5 rating scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

Esthetics

BruxZir restorations were rated excellent for esthetics when compared to other monolithic zirconia crowns (Figure 3).

Consultants' Comments

"Great option for second molars because minimal occlusal reduction is required (0.5-1.0 mm)."

"The recalled **BruxZir** restorations looked great and had excellent anatomy and surface finish."

"I use **BruxZir** for all molars and bridges and for patients who brux. I have not had any failures."

"**BruxZir** restorations had a high rate of acceptance by patients."

FIGURE 1 Growth of **BruxZir** Restorations

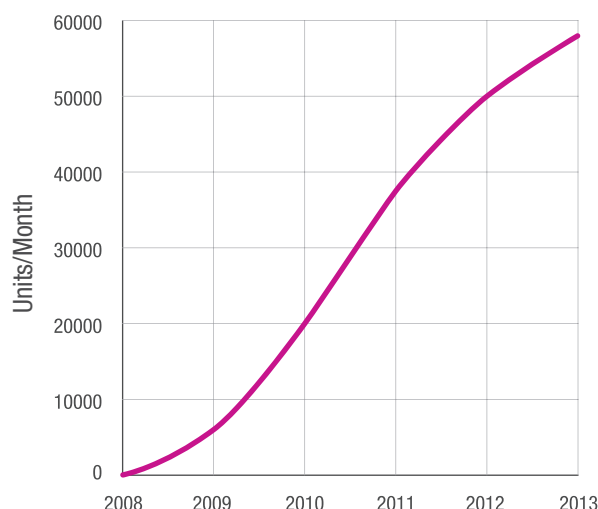
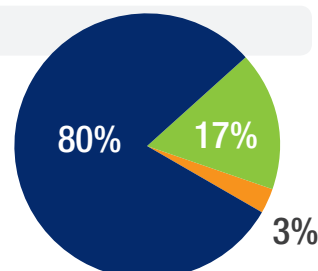


FIGURE 2

Types of restorations placed.

- Single Crowns
- Implant Crowns
- Bridges



Resistance to Fracture/Chipping

None of the **BruxZir** single crowns exhibited fracture or chipping (Figure 3). One five-unit bridge with very little clearance fractured one week after cementation. The bridge was redone, and is in function without any issues.

Resistance to Marginal Discoloration

No restorations exhibited marginal staining at two years (Figure 3).

Wear Resistance

Minimal wear was observed on **BruxZir** restorations or on opposing tooth structure (Figure 3).

Retention

Four posterior crowns debonded (Figure 3). Two were cemented with self-adhesive resin cement and two were cemented with an adhesive resin cement. Two of the teeth had short clinical crowns.

Conclusions

Ninety-eight percent of **BruxZir Solid Zirconia Crowns and Bridges** restorations manufactured by *Glidewell Dental Laboratories* received a 5 or excellent rating at two-year recall.

All of the single crowns and all of the three- and four-unit bridges had no evidence of fracture or chipping. One of two five-unit bridges failed shortly after cementation and was replaced. Over the two-year period, **BruxZir** has proven to be an excellent restoration with respect to esthetics, resistance to fracture/chipping, resistance to marginal discoloration, wear resistance, and retention. **BruxZir** received a clinical rating of 98%.

FIGURE 3

Ratings of **BruxZir** restorations at recall.

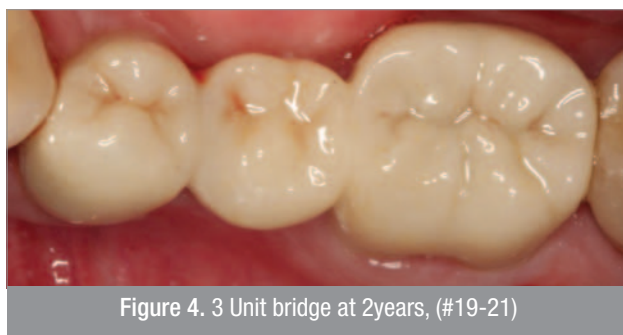
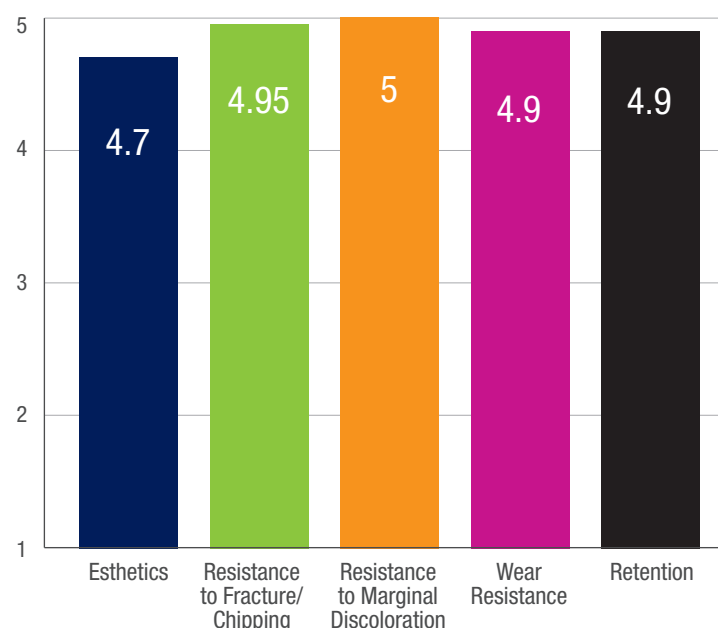


Figure 4. 3 Unit bridge at 2years, (#19-21)



Figure 5. Tooth #15, Bruxzir at 2 years