

LONG-TERM CLINICAL PERFORMANCE

sagemax

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Purpose

The purpose of this study was to determine the clinical performance of NexxZr T (sagemax) full-contour zirconia restorations at one year after cementation. The restorations were fabricated by Apex Dental Milling, Ann Arbor, Michigan.

Clinical Evaluation Protocol

At one year, 173 full-contour NexxZr T crowns of 298 restorations that were placed were recalled. The restorations included 154 posterior single crowns; three, three-unit posterior bridges; one, eight-unit anterior bridge; and two implant crowns (Figure 1). The restorations were cemented with adhesive resin cement or self-adhesive resin cement.

Results at One-year

One hundred seventy-three NexxZr T restorations were recalled over a three-month period. The distribution of recalled restorations is shown in Figure 2.

These restorations were evaluated in the following categories:

- Lack of sensitivity
- Esthetics
- Resistance to fracture/chipping
- Resistance to marginal discoloration
- Wear resistance of 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.

Lack of sensitivity

Lack of sensitivity was excellent (Figure 3). Seven patients experienced minor to moderate postoperative sensitivity, which subsided within 30 days of cementation.

Esthetics

The esthetics of the crowns cemented was very good to excellent (Figure 3). The majority of these crowns were for posterior teeth. Even the few anterior crowns had acceptable esthetics. Esthetics could be improved by making the zirconia exhibit more translucency.



Nos. 6, 7, 8, 9, 10 and 11 single crowns.

FIGURE 1

Types of Restorations Evaluated at One Year.

- Single Crowns
- Bridges
- Implant Crowns

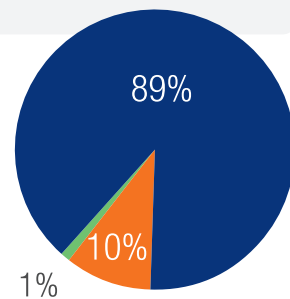


FIGURE 2

Distribution of Restorations Evaluated at One Year.

- Molars
- Premolars
- Anterior teeth

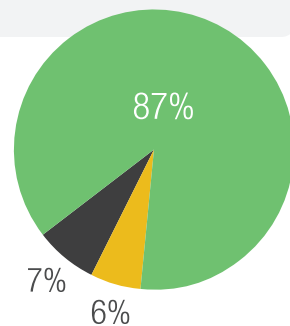
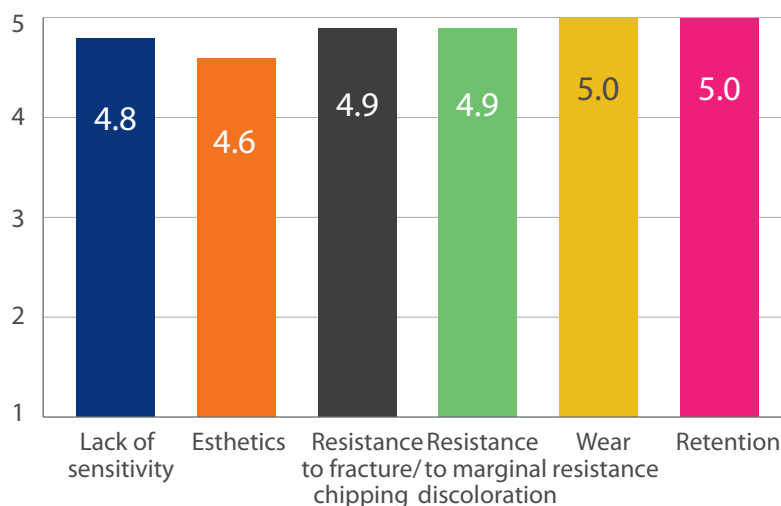


FIGURE 3 Ratings of NexxZr T Restorations at One-year Recall.



Results at One-year (cont.)

Resistance to Fracture/Chipping

Resistance to fracture/chipping was excellent (Figure 3). One posterior crown chipped at the margin but did not require replacement.

Resistance to Marginal Discoloration

Resistance to marginal discoloration was excellent (Figure 3). Two posterior crowns exhibited slight staining (microleakage) at the margins.

Wear Resistance

Wear resistance was excellent (Figure 3). No evidence of wear was noted on the restorations or opposing teeth. **NexxZr T** crowns were the treatment of choice for heavy bruxers.

Retention

Retention was excellent with none of the restorations debonding (Figure 3).

Summary

At one-year recall, all of the 173 restorations were rated to be excellent and none required replacement. Full-contour zirconia crowns are highly recommended for posterior teeth. **NexxZr T** (sagemax) full-contour zirconia restorations received a clinical performance rating of 98% at one year after cementation.