

### LONG-TERM CLINICAL PERFORMANCE

#### Bisco Dental Products

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#### Purpose

The purpose of this clinical study was to determine the clinical performance of **TheraCal LC** (Bisco Dental Products) at three years.

#### Initial Placement

One hundred sixty-five restorations were recorded at placement.

Areas noted were:

- Type of tooth
- Level of caries risk
- Type of pulp cap
- Bonding agent and restorative material used
- Patient sensitivity before placement

The types of teeth and types of restorations are indicated in Figures 1 and 2. Eight restorations were noted as being very deep. There were no direct pulp caps. All placements were indirect pulp cap liners under deep restorations or teeth with a history of significant sensitivity. Levels of caries risk are indicated in Figure 3. The teeth were restored using 16 resin composites, eleven self-etching bonding agents and two ceramics.



Bisco Dental Products  
TheraCal LC



*The product received a  
**98% clinical  
performance rating  
at the 3-year recall.***

### Clinical Evaluation Protocol

One hundred sixty five restorations were evaluated at placement.

Fig. 1: Types of teeth included at placement.

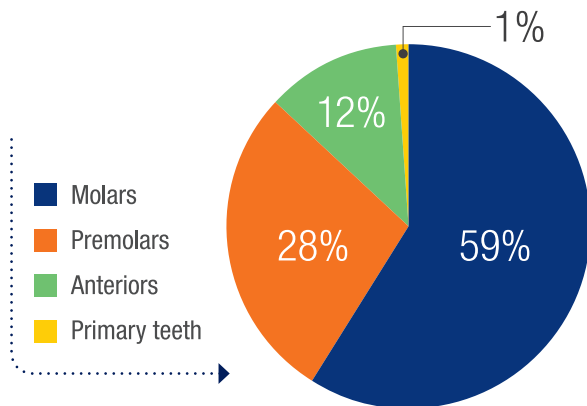
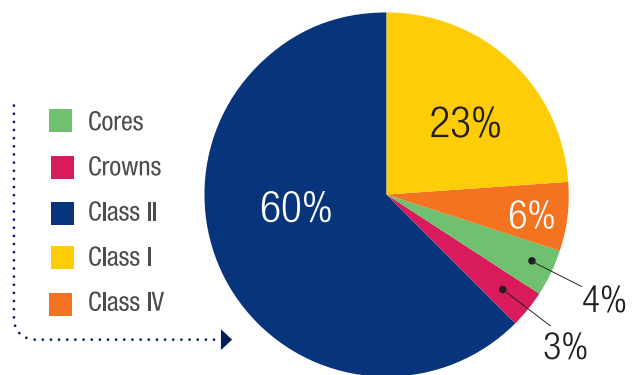


Fig. 2: Types of restorations placed.



*“Theracal LC has proven to reduce sensitivity in my patients with deep caries.”*

*“I continue to be pleased with the ease of placement and success rate when using TheraCal LC.”*



## Recall at Three Years

Recalled restorations were evaluated in the following categories:

- Postoperative sensitivity as reported by the patient.
- Necessity of endodontic treatment.
- Percentage of direct and indirect pulp caps that required endodontic treatment.
- Percentage of teeth classified by caries risk that required endodontic treatment.

## Results at Three Years

Over the three-year evaluation, clinicians continued to place restorations allowing THE DENTAL ADVISOR to report on 378 total placements. To date, 271 restorations have been recalled. Figure 4 provides a summary of the ages of the restorations.

**TheraCal LC** is indicated for use in deep restorations. Of the 271 restorations recalled, only six restorations (2%) required endodontic treatment at a later date. These patients reported sensitivity after placement. Only one restoration was noted as having a direct pulp cap. None of the restorations placed over **TheraCal LC** debonded or showed signs of marginal discoloration.

## Summary

**TheraCal LC** had excellent performance over a three-year period. Ninety-two percent of the restorations recalled at three years reported no postoperative sensitivity. Of the six teeth requiring endodontic treatment, all were originally noted as having deep areas of decay. Clinicians reported confidence in the use of **TheraCal LC** under deep restorations to reduce the incidence of postoperative discomfort. **TheraCal LC** received a 98% clinical rating at the three-year recall.

Figure 3: Levels of caries risk at placement.

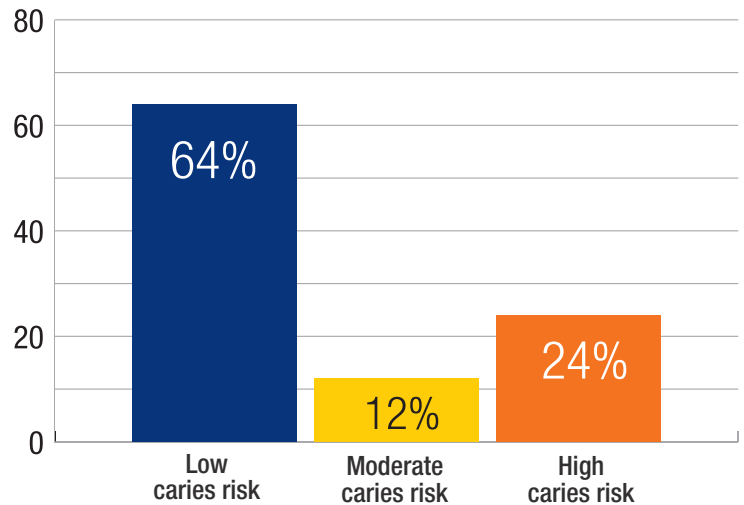
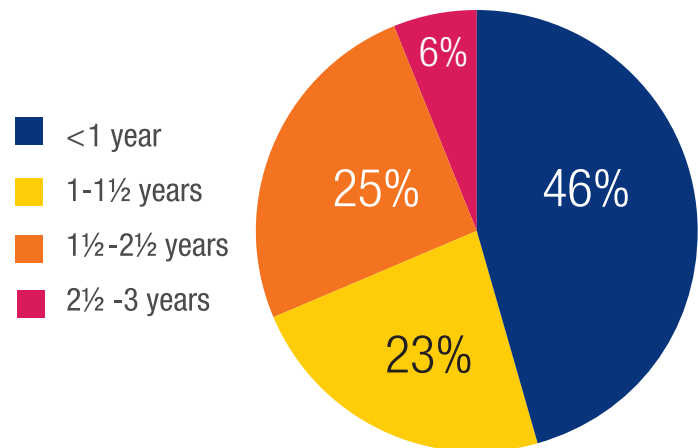


Fig. 4: Age of TheraCal LC restorations at 3-year recall.



*“Theracal LC has provided a valuable tool in the fight to reduce post-operative discomfort.”*