

**CHAPTER 6: CONCLUSION, CLINICAL  
RELEVANCE AND  
RECOMMENDATIONS FOR  
FURTHERWORK**

## 6.1. Conclusions

Under the conditions and limitations of this study, it can be concluded that:

1. There was no statistically significant difference related to restorative technique. Both tested groups presented different degrees of marginal leakage. Flowable composite as a liner under packable composite (Filtek P60/Filtek Z350) showed marginally better result than packable composite alone, but it did not prevent microleakage in restoring endodontic access cavities.
2. There was statistically significant difference related to water storage over time.
3. There was statistically significant difference related to thermocycling with respect to the number of cycles over time.
4. The methods of assessment influenced the results obtained. The results also depend on the selected criteria of evaluation. Regarding the methods for evaluating microleakage, the method that employs values of maximum penetration seems to be better in detecting the extent of microleakage.

## **6.2. Clinical Relevance**

1. All restorative materials tested presented marginal leakage of different degrees.  
The packable lined with flowable composites exhibited slightly better results than packable composite resin used alone.
2. Thermocycling increased coronal microleakage among the tested materials.  
Thermocycling when compared no thermocycling can help to determine the different behaviours of material.

### **6.3. Recommendations for further work**

1. Other aspects of the PFM-resin interface (bond strength, compressive strength and the effect of different retention systems) should be investigated under the effects of load and thermal cycling.
2. Observation of the microleakage of PFM specimens for a longer period than one week to evaluate the action of the different filling materials during this period.
3. Ability of other new filling materials to restore access cavities in PFM specimens crowns.
4. Treatment of PFM specimens crowns by using different etching times and different bonding system with longer water storage and thermocycling period.
5. Treatment of PFM specimens by using different types of burs to refine the inner access cavity surfaces of PFM specimens crowns.
6. Long term clinical trials to evaluate the effect of restorative techniques on microleakage.