

Chapter 14

EVALUATION OF THE PH VALUES IN THE ROOT CANAL AFTER RINSING PHOSPHORIC ACID BY DIFFERENT METHODS

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Introduction

In 1997, tooth-coloured posts were introduced and their popularity has increased because of their favourable physical properties (Asmussen E et al., 1999; Choi Y et al., 2010). Posts are commonly used for teeth with minimal coronal structure or for uniradicular teeth with a small coronal volume (King PA et al., 2003; Martinez-Insua A et al., 1998).

The first prefabricated fibre-reinforced posts were composed of carbon fibre. Glass or white quartz fibres and translucent resinous matrixes fibre-reinforced posts have been developed in an attempt to improve aesthetics such as the increased transmission of light through the root and the overlying gingival tissues, functioning, and suitable structure for endodontically treated teeth (Mannocci F et al., 1999a; Van Meerbeek B et al., 2003). In addition, the use of adhesive systems for post cementation has also increased because these systems can save chair time and reduce costs while providing satisfactory results (Bitter K & Kielbassa AM, 2007).

The elastic modulus of fibre-reinforced posts is similar to dentin, resin cements, and resin core materials(Akkayan B & Gülmez T, 2002). A compatible number of in vitro and in vivo published studies (Kallio TT et al., 2003; Mannocci F et al., 1999b; Martinez-Insua A et al. 1998; Sahafi A et al., 2003) have investigated the application of fibre posts with different cementation techniques and different types of cements. Resin materials have been recommended for use in combination with an acid etching technique adhesive system, luting resin cement, and fibre posts(Asmussen E, Peutzfeldt A, & Heitmann T, 1999; Goldman M et al., 1984; Mannocci F et al., 1998). These materials improve tooth flexibility under applied loads and stress distribution between the post and dentin(Asmussen E, Peutzfeldt A, & Heitmann T, 1999; Testori T et al., 1993). Resin materials reduce the risk of root fracture, which is the most serious type of failure(Martínez-Insua A et al., 1998).

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