

the posterior teeth. Teeth with more than 4-6 mm of crestal bone loss and reconstructed using metal posts are more prone to vertical fracture. Corrosion of posts made from non-precious metals and the mismatch of metals between dowel cores and final crowns can cause vertical fracture.

Root morphology also plays a role in the incidence of fractures. Root fracture increases if posts are used in the mesiobuccal roots of upper molars and the mesial roots of lower molars. Bonded coronaradicular amalgam cores are the gold standard for molars. Posts are discouraged in molar teeth. Retention and resistance form should be developed from the remaining walls of dentin, the judicious use of the top 3 mm of canal space and/or pins and potholes.



FIGURE 6A (Dentistry completed by Dr. P. Miller) 13 fractured at tissue level.

The carbon fibre (RTD) post systems available on the market today boast little or no fractures and appear to be the system of choice for the restoration of endodontically treated teeth.

ABUTMENT POTENTIAL

Non vital teeth used to support fixed or removable partial dentures including overdentures with attachments are more prone to fracture failure. However a recent prospective study using carbon fibre posts has shown that there may be no greater fracture potential utilizing fixed versus single abutments.

OCCUSAL SCHEMES

Since the average bite force is 168 pounds per square inch and non vital teeth have less proprioception, the occlusion should be carefully evaluated and balancing interferences should be removed to protect against fracture. Protection against parafunction should be introduced early in treatment by means of a flat plane splint. Deep overbites will need the minimal ferrule (2.0 mm) with attention given to the anterior guidance scheme. If pos-

sible, during endodontic treatment the tooth should be taken out of occlusion. The use of cantilever pontics is not recommended during the reconstructive stage of treatment even when the opposing dentition is a full or partial denture (Fig. 3).

ANTERIOR TEETH

Anterior teeth with intact marginal ridges, cingula, and incisal edges need only a dentin bonded restoration. The presence of large or multiple restorations or unacceptable aesthetics may preclude conservative options. Discoloured endodontically treated teeth can be bleached externally to avoid the possibility of resorption. Porcelain veneers are also a viable option depending on the amount of coronal destruction. Upper and lower incisors lend themselves well to all post systems (available on the market today) but only a passive system should be cemented to avoid fracture. Round canals need antirotation which may be developed from the remaining coronal dentin or if missing, in the form of pins, grooves or potholes in order to ensure a secure resin core. Cuspids on the other hand have ribbon canals and would do better with a custom dowel. Light cured



FIGURE 6B After endodontics, cementation of post and core and insertion of orthodontic appliance.



FIGURE 6C Extrusion complete- note 2 mm ferrule and removal of hooks on core.



FIGURE 6D Final PFM crown 13.

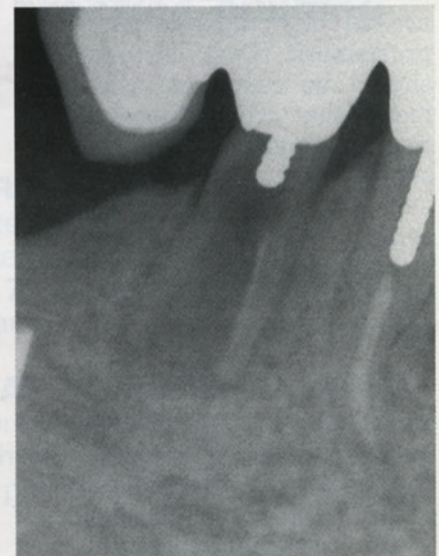


FIGURE 7 Part of figure 3.