NEW TRENDS IN ROOT CANAL OBTURATION IN THE ERA OF MINIMAL INVASIVE ENDODONTICS

Success in endodontic treatment is based on the equally important triad of debridement, disinfection, and obturation. When a step in the endodontic or restorative procedure is inadequate, apical seal is adversely affected. The ultimate goal of endodontic obturation has remained the same for the past 50 years: achieve a fluid-tight seal of the root canal system, from the coronal opening to the apical termination. Three-dimensional obturation of the radicular space is essential to long-term success. For this purpose, several techniques have been advocated for obturation.
An ideal filling technique should assure complete filling of the canal without overfill and with minimal or no voids. Thus, it is important to select an obturation technique that offers consistency and is easy to use. Most of obturation studies show that all materials and techniques result in some degree of microscopic voids. Although a poorly obturated canal and voids are correlated, radiographic evaluation of obturation does not correlate well with obturation imperfections neither confirm an adequate seal. Fortunately, clinical success rates after endodontic treatment are high despite the varied conditions, materials, and techniques employed.

An alternative recent approach is to minimise structural changes during root canal therapy, which may result in a new strategy that is the ‘minimally invasive endodontics’. There are, however, currently no developed specified protocols for minimally invasive endodontics.

Our presentation will review current obturation techniques and evaluation methods highlighting the conservation of tooth structure to enhance longevity after root canal treatment and providing an overview of this new endodontic paradigm.

We will also discuss actual success rate in endodontic treatment based on clinical reliable studies.