MULTIDISCIPLINARY APPROACH TO TRAUMATIZED TEETH

INTRODUCTION: The increased incidence of traumatic injuries to anterior teeth is a consequence of leisure activities, where the most common injuries are crown fractures. Facial injuries occur more frequently in children than adults and usually as a result of sports activities, falls, car accidents, fights and intentional assaults. Blows to the face often affect the teeth and especially the maxillary incisors because of their normal labial projection in relation to the mandibular incisors, most of the time leading to damage to the crowns. The treatment strategy of a crown fracture is complex and the esthetics is an important requirement. The literature reports several different treatments for this kind of problem, ranging from the maintenance and use of the tooth fragment either as a temporary or permanent crown; definitive crown after an orthodontic or surgical extrusion or a crown lengthening to an extraction of the residual tooth followed by an immediate or delayed implant surgery or fixed partial denture. Treatment of the dental trauma is complex and requires a comprehensive and accurate diagnostic and treatment plan. It is also important to consider the biological, functional, aesthetic and economic aspects, as well as the patient's desire. The purpose of this article is to report a case that shows the multidisciplinary approach required to successfully manage the rehabilitation of maxillary central incisors with a crown fracture.

CASE REPORT: A 17-year-old boy was referred to Department of Prosthodontics, BBD College of Dental Sciences, Lucknow, showing fracture in the maxillary anterior teeth, following a bicycle accident which took place 1 year back. Clinical and radiographic examinations were performed. The examinations showed a complicated crown fracture (enamel-dentin fracture with pulpal involvement) in the maxillary central incisors (Fig 1). Both central incisors were also fractured from the palatal side. After thorough examination keeping patient's need and economic condition in mind the treatment plan for the patient involved post and core fabrication followed by metal ceramic crowns. Root canal therapy was performed on both the central incisors. After obturation post space was prepared for the metal custom post in two-thirds of the total canal length leaving apical one third of gutta parcha. Gingivectomy was performed around the palatal side of both the central incisors to accommodate the fractured segment in the post (Fig.2), so that plaque accumulation in the area can be avoided. The impression of the post space was made with cold cure acrylic resin, which was later cast and finished. Meanwhile temporary crowns were given on both the incisors (Fig. 3). Posts were cemented with Glass ionomer luting cement (Fig. 4). Crown preparation was done on both the incisors and impression was made. Metal copings were made and tried in patient's mouth. After verification ceramic was baked and crowns were cemented with Glass ionomer luting cement (Fig. 5).

DISCUSSION: The increased incidence of traumatic injuries to anterior teeth is a consequence of modern leisure activities and the most common injuries are crown fractures. Different treatment approaches have been indicated for fractured teeth, depending on the location of the fracture. A crown fracture may be restored with an artificial crown or with an acid-etch composite system. The treatment must, therefore, aim to expose the fractured margins, so that all clinical procedures can be managed with strict moist control and bleeding control. Furthermore, the prognosis may be improved through better plaque control by the patient. This type of treatment usually implies a multidisciplinary approach, with an endodontist, an orthodontist, a periodontist and a prosthodontist. The literature reports several different treatments for this kind of problem. The selection of one of the potential approaches will depend on the extent of the subgingival lesion, the morphology of the lesion, the length and/or the morphology of the root and the appearance of an ‘esthetic sensitive’ region. The need for a multidisciplinary approach in the treatment of routine dental problems has been recognized for some time, especially for dental traumas that require comprehensive treatment and an accurate diagnosis and treatment plan, respecting the biological, functional and aesthetic aspects, as well as the patient's will.

CONCLUSION
The key factors in a successful functional and esthetic rehabilitation of complicated crown fracture and crown-root fracture are multidisciplinary approaches, which may involve surgeries, endodontics, orthodontics, periodontics, and prosthodontics.

REFERENCES