Root perforations adversely affect the prognosis of the root canal treatment. Mineral trioxide aggregate (MTA) is the most recommended material to repair perforations. This poster reports the use of MTA in endodontic repair of the perforation in the middle third of the root and 6 month follow up of this non-surgical approach. The lower left first molar tooth of 19 year old male patient was diagnosed as chronic apical abscess in the clinic of Department of Endodontics of the Dental School, Suleyman Demirel University, Isparta, Turkey. During the root canal treatment by a senior student, a perforation at the middle root level on the outer curvature of the left molar was detected on final radiograph. The radiograph taken with angulation confirmed that the gutta percha was clearly protruding from the mesial root. At the same appointment, current canal fillings were removed with Protaper Universal retreatment files. Intracanal medication was applied for a week using calcium hydroxide. At the second appointment, non-perforated root canals were filled with gutta percha and sealer. After placing the master cone into the related root canal, perforation area was repaired with MTA. The patient is called for follow-up at third and sixth months. Tooth was asymptomatic and periodontium was healthy. Angulated radiographs can facilitate the detection of the perforations. In this case, MTA is chosen for the requirement of a biocompatible, bone inductive and radiopaque material in perforation repair. The case will be followed for a longer period.