Management of Perforations

All root canal treatment should be properly consented before starting treatment and patients should be warned of the risks

Risks: Post-operative pain, swelling, bruising, trismus, need for multiple visits, missed canals, perforations, ledges, hypochlorite accident, file fractures, failed root canal treatment and need for re-endo by a specialist.

Remain calm. Inform the patient of what has happened. Decide with the patient how to best proceed

Consider referral if the procedure is not within the scope of your practice

Prior to referring: Place cotton wool over the perforation with CaOH and dress with ZOE/ GIC. include * information regarding the cause and location of the perforation with the referral letter.

If decided to manage in-house:

Achieve haemostasis using pressure or heat

Pressure- 5mins with sterile cotton pellet. Heat- heated instrument or system B tip etc to gently cauterize the bleeding.

Plug the perforation

The gold standard is to use a calcium silicatebased cements such as MTA or Biodentine. ZOE or GIC can also be used.

Allow appropriate setting time

Biodentine takes 9-12mins. MTA takes over 12 hours. Dress MTA with a damp cotton pellet, close up to allow setting and return next visit to complete root canal.

Seal over with GIC

Success is dependent on location, size and time. Coronal perforations have a lower prognosis than apical perforations as they can develop perio-endo lesions around them. Smaller perforations and those treated sooner also have a better success rate.

Complete the root canal treatment

Perforations occur usually due to over instrumentation or a poor understanding of the anatomy of the tooth. Learn the individual access cavity designs and understand the basic principles to a good access cavity with straight line access to the canals.

Review at 6 months then annually (up to 4 years) until complete healing