

# AH Plus root canal sealer

James Aquilina reviews AH Plus



**James Aquilina BDS MSc (Endodontics)**

James Aquilina qualified from Guy's Hospital in 1992, where he undertook House Officer postings first in Children's Dentistry and then in Oral Surgery. James completed a part-time MSc in Endodontics at Guy's Hospital in 1999. Since completing his Masters degree, his practice has solely been limited to endodontics. He held a part-time position at Guy's supervising undergraduates and postgraduates, as well as having his own clinical sessions. James also organises and supervises courses in endodontics aimed at general dental practitioners, and is a council member of the British Endodontic Society.

AH Plus is an epoxide-amine resin pulp canal sealer, developed from its predecessor AH 26, with improved properties. Its shade and colour stability now make AH Plus an ideal choice where aesthetic demands are high and discolouration is unacceptable (for example when dealing with teeth in the labial segments).

A 13-year-old boy was referred for root canal therapy of his upper right central incisor. The patient had previously traumatised the tooth, resulting in a class two coronal fracture. His general dental practitioner subsequently restored the tooth by using a pinned composite restoration. The incisor started to become uncomfortable when biting and on examination the tooth failed to respond to electrical stimulation. Radiographic examination showed a widening of the periodontal ligament space (Figure 1).

A diagnosis of chronic apical periodontitis was made. Root canal therapy was performed over two appointments. All treatment was carried out with rubber dam isolation. The canal was prepared using a combination of ProTaper and System GT rotary instrumentation, and copious irrigation with sodium hypochlorite. The canal was dried with paper points and a gutta percha master point fitted. The apical position was confirmed by taking a cone fit radiograph.

AH Plus is quickly and cleanly mixed by the nurse or alternatively, is available in its new JET form – a double-barrel mixing syringe which has an auto-mixing tip. This reduces the wasteful mixing of excess material. As soon as a uniform colour has been achieved, the material is ready to use and has a perfect working consistency. AH Plus is thick enough to lightly 'butter' the master point, yet flows well enough to coat the prepared canal walls easily. It is slightly thixotropic and will therefore flow better under pressure.

The canal was obturated using vertically compacted gutta percha and AH Plus sealer. AH Plus is very well suited for warm compaction techniques, as it is heat tolerant and the setting reaction is not adversely speeded up during thermoplastic obturation. In fact, the mixed material has a four-hour working time, with a five-hour gelling time and an eight-hour setting time. This allows the sealer to be mixed in advance of when it is needed, utilising time that would otherwise be wasted, for example, while waiting for radiographs to be developed.

The small filler size and film thickness, combined with the flow characteristics of AH Plus, allow for good adaptation to the entire root canal system. As the material has good dimensional stability, low solubility and adheres to dentin, it is possible to produce an excellent seal. AH Plus is extremely radiopaque and therefore penetration of the material into any accessory anatomy is clearly visible on radiographs, even when there is a thin film thickness.

In the example shown, two lateral canals on the mesial wall in the apical third of the root can clearly be seen (Figure 2). This puts the sealer in direct contact with the periapical tissues, but cured AH Plus is well tolerated and, at most, only a transient inflammatory response will occur directly after the application of the material. Having said this, AH Plus should not be used in patients who are allergic to epoxy resins or amines.

To summarise, AH Plus is an excellent sealer with properties that allow it to be used in a variety of obturation techniques.

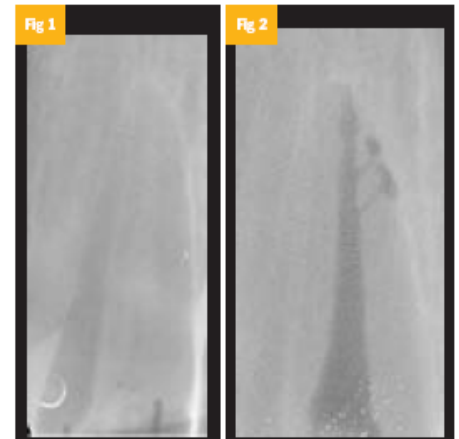


Fig 1: Preoperative view of UR1 showing widening of periodontal ligament space

Fig 2: Postoperative radiograph showing two lateral canals