

# Letters to the editor

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## Artificial intelligence

### Developing slowly

Sir, the announcement of the *BDJ's* Collection on Artificial Intelligence and Dentistry (<https://go.nature.com/40hwLvz>) states that this is a fast-developing field when the truth is that it has been developing slowly for more than 50 years. Even within clinical dentistry, such programmes have been around and shown to be effective since the mid-1990s.<sup>1,2</sup> Within my own field, the recent review paper by Bichu *et al.* (2021)<sup>3</sup> identifies 33 applications of artificial intelligence to orthodontics of which those developed in Bristol were the earliest to be reported.<sup>4,5</sup>

Might I also suggest that the paper by Crowder<sup>6</sup> is not an example of a dental application of artificial intelligence but rather one to assess the potential of teledentistry?

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<https://doi.org/10.1038/s41415-023-5747-3>

## Endodontics

### Sodium hypochlorite irrigation and safety

Sir, I read with interest the article ‘No squirting’ by D. Burton.<sup>1</sup> Considering risk of extrusion of sodium hypochlorite (NaOCl) solution during intracanal irrigation, particularly with conventional or positive pressure-based irrigation methods, the ‘Paper point’ technique<sup>1</sup> can be further supplemented with the ‘Reservoir’ technique by using a dental syringe or irrigant delivery device to carry and deposit a few drops of NaOCl solution passively into the pulp chamber and/or access cavity,<sup>2</sup> and the paper point does the rest by wicking or capillary action.<sup>1</sup> This can also avert accidental spillage of NaOCl drops which can occur while transferring it to paper point with a tweezer or any instrument. If lack of deeper penetration of NaOCl solution is a concern, especially in the apical 3<sup>rd</sup> portion of a canal, the soaked paper point can be removed, and by replenishing the reservoir or depot of NaOCl solution in the pulp chamber and/or access cavity, a file or gutta percha (GP) point smaller than

the prepared canal size can be used with gentle pumping motion to progressively work small amounts of NaOCl solution into the canal. Clinical study has reported low rate of NaOCl extrusion following intracanal irrigation with NaOCl solution and use of GP point in manual dynamic motion by employing controlled up and down strokes.<sup>3</sup> Hence, the supplemented technique with a reservoir or depot of NaOCl solution in the pulp chamber and/or access cavity can be considered relatively safer with minimal risk of extrusion while working for deeper entry of NaOCl solution. However, a closely fitting file or GP point can act as a piston or plunger and still generate sufficient hydraulic pressure to extrude NaOCl.<sup>2</sup> In cases with open apex or blunderbuss canal or widened apex due to resorption or overinstrumentation, the supplemented technique may still harbour the risk of NaOCl extrusion due to apical access for easy seepage of NaOCl solution and difficulty in controlling a paper point, file, or GP point to the desired length. In such cases, and when NaOCl irrigation is indispensable, using NaOCl gel instead of NaOCl solution can be a viable option.<sup>4</sup> The potential for extrusion can be further reduced by coating NaOCl gel onto the canal walls with a paper point, file, or GP point rather than injecting it.

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## Retraction Note: Quality assessment grading of radiographs

The original article can be found online at <https://doi.org/10.1038/s41415-023-5441-5>.

The Editor-in-Chief and the Publisher have retracted this letter because it was published due to an administrative error. The original version of this letter<sup>1</sup> is the version of record.

<sup>1</sup>Bird R, Donnell C. Making the grade. *Br Dent J* 2021; **230**: 117. <https://doi.org/10.1038/s41415-021-2677-9>

<https://doi.org/10.1038/s41415-023-5686-z>