

# Letters to the editor

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## CORONAVIRUS

### Three updates

Sir, I write with my thoughts on three recent items published in the *BDJ*,<sup>1,2,3</sup> in relation to fit testing for FFP3 respirators,<sup>1</sup> an additional consideration is that the Occupational Safety and Health Administration have advised that prescription glasses, or where required safety goggles, must be worn during the fit test.<sup>4</sup> The author cited reasons for undergoing a fit test, one of which was facial change since the previous test. It would be interesting to note that major dental work such as new dentures would fall under this category.

Secondly, in relation to thermal screening<sup>2</sup> the CDC in its guidelines for dental settings recommends that a patient should not be deferred treatment for the sole reason of being febrile ie a clinical correlation of the fever must be made.<sup>5</sup> The same guidelines recommend that the definition of fever be updated to either a measured reading of  $\geq 100.0^{\circ}\text{F}$  or subjective fever. If a patient is found to be febrile with a strongly associated diagnosis of dental origin such as the presence of intra-oral swelling and pulpal/periapical dental pain with the absence of symptoms suggestive of COVID-19, dental care may be provided following routine protocol.

Finally, in relation to orthodontic treatment<sup>3</sup> this author mentions the use of self-etch primers (SEP) to avoid an AGP, however the technique of applying SEP involves gentle air drying according to some manufacturers, making it a potential AGP. There is also a mention of utilising light cured resin modified GIC, but this material does not require a dry field and in fact, the surface of the enamel should be moist during bonding to ensure success.<sup>6</sup> The author suggests hand trimming of

excess composite/flash with a scalpel. An alternative to this would be to utilise either: band removing pliers (posterior teeth), hand scalers/Mitchell's trimmers (incisors) or adhesive removing pliers.<sup>6</sup> Minimal remnants of residual material on the enamel surface can be lost with time as a result of toothbrushing.<sup>6</sup>

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### References

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### Molecular iodine

Sir, we have read with great interest the correspondence of Challacombe *et al.* on the antiseptic efficacy of povidone-iodine (PVP-I) against SARS-CoV-2; we aim to demonstrate the potential prophylactic capacity of the new generation of uncomplexed molecular iodine ( $\text{I}_2$ ) mouthwashes.<sup>1</sup>

PVP-I has been a gold standard antiseptic for decades with proven efficacy against the previously identified beta coronaviruses; it was one of the first candidates for the emergency trials attempting to establish an additional layer of protection for frontline healthcare

workers.<sup>2</sup> The mechanism of action of PVP-I relies primarily on the free iodine component, which is bound to a large polyvinylpyrrolidone molecule (PVP) acting as a carrier to deliver  $\text{I}_2$  to target cells. However, the viricidal activity of PVP-I is highly associated with its  $\text{I}_2$  content: the commonly used 10% PVP-I can only deliver 1–3 ppm of  $\text{I}_2$  in a compound of more than 31,600 ppm of total iodine atoms. The high percentage of bounded 'non-active' iodine contributes to all the undesirable toxicological and staining properties of PVP-I.<sup>3</sup>

A new generation of iodine-based antiseptics 'super iodine' was initiated recently to overcome the compositional side effects of PVP-I. Therefore, ioTech International (Boca Raton, FL) produced a patented aqueous solution of  $\text{I}_2$  that contains over 100 times more  $\text{I}_2$  than PVP-I and comes in various forms ready for prophylactic use including mouthwash, nasal spray, and hand cleanser.<sup>4</sup> Moreover, the non-bioactive iodine content was reduced from 31,600 ppm in PVP-I to several hundred in the new formula thus accelerating its effect, increasing its shelf-life, and minimising its potential irritancy and mucosal staining.

In comparison to several antiseptic mouthwashes, the new  $\text{I}_2$  formulas showed higher viricidal efficacy against coronaviruses and took as short as 30 seconds to inactivate alpha coronaviruses (229E) completely.<sup>4</sup> The same was observed in Rhinovirus which was totally inactivated above the cytotoxicity level after exposure to the new  $\text{I}_2$  formula for 30 seconds.<sup>4</sup>

To the best of our knowledge, there is an ongoing randomised control trial at St. Joseph's Hospital University (Paterson, NJ) to evaluate the efficacy of  $\text{I}_2$  mouthwashes and nasal sprays in protecting frontline healthcare workers by reducing their susceptibility of getting infected by SARS-CoV-2. Therefore,