

Elsewhere we describe similar protocols for treating known COVID-19+ patients and the HCW looking after them.<sup>2</sup> The total iodine exposure proposed is well within previously recorded safe limits in those without contraindications to its use (history of allergy to PVP, thyroid disease etc). The intervention is inexpensive, easy and easily deployed at scale. The methodology proposed is as follows:

Step 1 – A 0.5% PVP-I solution (standard aqueous PVP-I antiseptic solution diluted 1:20 with water) is administered in a dose of 0.3 ml into each nostril, preferably using an atomising device (two sprays for average device) or if not from a syringe.

Step 2 – 9 ml of the 0.5% solution is then introduced into the oral cavity and used as a mouthwash. Distribute throughout the oral cavity for 30 seconds and then gently gargle at the back of the throat for another 30 seconds before spitting out.

We propose the use of PVP-I applied as per this method for all patients requiring dental treatment during the current COVID-19 pandemic, just prior to treatment. To enhance protection, the operating dental surgeon and assistant should both consider self-administering to the same protocol every 2-3 hours while treating patients during the pandemic, up to four times a day, as an adjunct to currently recommended PPE. The application of PVP-I mouthwash and nasal spray in this way should reduce the cross-infection risk and therefore help to protect dentists. The American Dental Association have very recently published interim guidelines for minimising the risk of COVID-19 transmission which includes the use of a pre-operative 0.2% povidone mouthwash.<sup>5</sup>

A more comprehensive summary of the available evidence, safety data and exclusion criteria are available and we would recommend that this is read before using this protocol.<sup>2</sup>

*S. J. Challacombe, London, J. Kirk-Bailey,  
V. S. Sunkaraneni, Guildford, J. Combes,  
Whittington, UK*

## References

1. To K K-W, Tsang OT-Y, Chik-Yan Yip C *et al.* Consistent detection of 2019 novel coronavirus in saliva. *Clin Infect Dis* 2020; **361**: 1319-1326.
2. Kirk-Bailey J, Combes J, Sunkaraneni S, Challacombe S. The use of Povidone Iodine nasal spray and mouthwash during the current COVID-19 pandemic for the reduction of cross infection and protection of healthcare workers. (submitted) Last revised 16 April 2020. Available at: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3563092](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3563092) (accessed 22 April 2020).

3. Eggers M, Koberger-Janssen T, Eickmann M, Zorn J. In vitro bactericidal and virucidal efficacy of Povidone-Iodine gargle/mouthwash against respiratory and oral tract pathogens. *Infect Dis Ther* 2018; **7**: 249–259.
4. Kariwa H, Fujii N, Takashima I. Inactivation of SARS coronavirus by means of povidone-iodine, physical conditions and chemical reagents. *Dermatology* 2006; **212 Suppl**: 119–123.
5. American Dental Association (ADA) Interim Guidance for Minimizing Risk of COVID-19 Transmission 2020. Available at: <https://bit.ly/3bskH0x> (accessed 22 April 2020).

<https://doi.org/10.1038/s41415-020-1589-4>

## Mental health disorders

Sir, I wrote to you in 2019 about the impact of mental health disorders amongst dental patients.<sup>1</sup> With the World Health Organisation (WHO) declaring the current Public Health Emergency, COVID-19, it is just as important as ever to also recognise and manage the mental wellbeing of professionals in healthcare.<sup>2</sup> Such an unprecedented situation is understandably likely to trigger feelings of stress and anxiety.

Concerns over physical health, uncertainty over redeployment, and training and employment insecurities are just a few of the many difficulties that members of the dental and medical community are facing. Healthcare professionals are also challenged to find a balance between managing their own physical and mental health, and that of the patients they are treating.<sup>3</sup>

The WHO recognises the importance of healthcare workers employing positive coping strategies,<sup>2</sup> whilst Public Health England guidance also outlines safe working recommendations, advising staff to regularly take breaks.<sup>4</sup>

The current level of mental health and emotional support available for National Health Service (NHS) staff, as they tackle the COVID-19 pandemic, seems to be on the rise. The NHS has launched a 'mental health hotline' for its staff,<sup>5</sup> and there are also a number of free digital apps available to NHS workers until December 2020. These form part of the extensive support measures being put in place to deal with the consequences of COVID-19.

Whilst such resources are deeply valued during the ongoing crisis, my concern is how much support will be available to deal with the longer-term impacts of this pandemic? With all non-urgent elective care currently suspended, there will undoubtedly be increased pressure on the workload for professionals after COVID-19. We therefore need to consider the future consequences of

this event for NHS staff, to ensure that we have a healthy workforce, both physically and mentally.<sup>3</sup> This preparation will ensure high standards of patient care can be continued.

*R. Oliver, Liverpool, UK*

## References

1. Oliver R, Thayer T. Mental health disorders. *Br Dent J* 2019; **227**: 539–540.
2. World Health Organisation. Mental health and psychosocial considerations during the COVID-19 outbreak. 2020. Available at: <https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf> (accessed April 2020).
3. Greenberg N, Docherty M, Gnanapragasam S, Wessely S. Managing mental health challenges faced by healthcare workers during covid-19 pandemic. *Br Med J* 2020; **368**: m1211.
4. Public Health England. COVID-19 personal protective equipment (PPE). 2020. Available at: <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe> (accessed April 2020).
5. NHS England. NHS launches mental health hotline for staff tackling COVID-19. 2020. Available at <https://www.england.nhs.uk/2020/04/nhs-launches-mental-health-hotline-for-staff-tackling-covid-19/> (accessed April 2020).

<https://doi.org/10.1038/s41415-020-1590-y>

## USC referrals

Sir, we write to draw attention to the impact that the lockdown associated with COVID-19 is having on mouth cancer USC referrals. Here at the University Dental Hospital in Cardiff, which serves a population of approximately 480,000, the mean number of USC referrals received per week has been 11 with a range, over the six months prior to 23 March 2020, of between seven and 18 referrals per week. These USC referrals come from both general dental and general medical practitioners working in primary care of Cardiff & Vale University Health Board. However, since the introduction of lockdown and clinical restrictions on 23 March 2020, the number of referrals per week has fallen in consecutive weeks from 11 to three, then to one with no USC referral in the week beginning 6 April 2020. Only two USC referrals have been received in the last two weeks. The University Dental Hospital is running an emergency dental service every day and no patient has presented with mouth cancer via this route since 23 March. There will undoubtedly be an adverse impact on patients who may present after lockdown restrictions with tumours at an advanced stage that will require more complex treatment and ultimately have a poorer five-year survival.

It is important that the profession is aware that during this pandemic USC patients will

still be triaged and seen. A clear referral with photographs will greatly aid this process. Biopsy under local anaesthesia and axial imaging remain available and virtual multi-disciplinary team meetings are running. Surgery involving free tissue transfer is extremely limited at present. However, if a tumour is detected at an early stage then wide local excision even under local anaesthesia is possible.

Sadly, mouth cancer is a condition that will be affected by the coronavirus pandemic. Only time will tell the true nature and enormity of this impact.

*M. A. O. Lewis, C. V. Thomas, Cardiff, UK*  
<https://doi.org/10.1038/s41415-020-1591-x>

## Don't forget about head and neck cancer

Sir, during the current virus situation there is a real risk that patients with malignant lesions present late to specialist teams, potentially resulting in worsened outcomes. Telephone consultation is available to patients via their GDP and offers an opportunity to identify high risk lesions and organise their timely onward referral if appropriate. Strict triage is essential and must include screening questions relating to head and neck oral squamous cell carcinoma.

In 2015, Birur *et al.* found remote monitoring of potentially cancerous oral lesions by primary care practitioners to have improved early detection and ultimate diagnosis of oral cancer.<sup>1</sup> A similar system could be adapted in the current health climate, with patients taking photos of lesions found in their own mouth (assisted perhaps by a household member) and emailing them to their dental practice for review. In order to ensure the oral cavity is imaged satisfactorily, perhaps video may be an option, online facilities whereby a practitioner could ask the patient to move their tongue, swallow, or improve the angle of view to enable more detailed assessment.

When a fast track referral is received by OMFS, it can be reviewed by an experienced member of the team. If the referring clinician is able to obtain any photographs from the patient, they may be used, in addition to an ENT UK validated telephone risk stratification system which enables an evidence-based risk assessment to be made.<sup>2</sup> Ongoing management of potential cases, whilst challenging, can then be arranged according to this risk.

We implore dental professionals to continue their rigorous efforts to detect oral cancer, by asking patients to phone in to their practice if they detect unexplained oral ulceration which persists longer than three weeks, a persistent lump in their neck, or notice a red or white patch anywhere in the mouth. Additional red flag symptoms would include changes to the voice, unintended weight loss and pain or difficulty swallowing. Despite the current uncertainty, our duty to patients still involves aiding their referral to specialist services should it become necessary.

*R. Taylor, E. Walshaw, A. Kanatas, Leeds, UK*

## References

1. Birur P N, Sunny S P, Jena S *et al.* Mobile health application for remote oral cancer surveillance. *J Am Dent Assoc* 2015; **146**: 886–894.
2. ENT UK 2WW Telephone Triage: Service Evaluation – INTEGRATE. Available at: <https://entintegrate.co.uk/entuk2wwtt> (accessed 17 April 2020).

<https://doi.org/10.1038/s41415-020-1592-9>

## A potential third infection route

Sir, so far, we are aware of two main routes of transmission SARS-Cov-2: infection by contact with a contaminated object and inhalation of droplets emitted by sneezes and coughs. However, there may be a third infection route of microdroplets, which can remain in the air for perhaps 20 minutes or more, particularly where ventilation is poor. Recent experiments have been undertaken in the Kyoto Institute of Technology and the Japanese Association for Infectious Disease. Laser beams and high sensitivity cameras, which can capture microdroplets 0.01 micrometres in width, have been used to analyse the aftermath of sneezes and coughs. Droplets fall relatively quickly, but small particles (less than 10 micrometres in width) can remain in the air for prolonged periods.

Similar experiments have been undertaken assessing close range conversations where microdroplets can be seen generated during speech, particularly loud conversational speech or heavy breathing (such as after a jog). Stagnation of microdroplets can be minimised with good ventilation and increased air circulation. It is not known what volume of microdroplets can lead to infection, but the possibility that such microdroplets may transmit the virus cannot be ruled out. The risk is that it may be spread by speaking to someone, or potentially being in an area

where others have been speaking, particularly if ventilation is poor, and masks are not being worn. Consider the areas in hospitals where most conversations take place, such as offices or corridors, many with inadequate or no ventilation. The implications of this data will become clearer as our understanding improves, but in the meantime, extra caution may be better than the alternative.

*F. B. Naini, London, UK*  
<https://doi.org/10.1038/s41415-020-1593-8>

## Saliva testing for COVID-19?

Sir, Reverse Transcription-Polymerase Chain Reaction (RT-PCR) is the most commonly used molecular diagnostic test for the detection of COVID-19 in biological samples but no universally accepted test is currently available, with several countries adopting different test strategies.<sup>1</sup> The selection of proper location/test site for sample collection is very important to obtain reliable test results, the most commonly used being naso- and/or oropharynx swabs (NOS).<sup>2</sup>

Although these are relatively easy to collect and test results are highly sensitive, there are limitations related to sample collection and healthcare personnel safety. However, use of saliva as an alternative to NOS for detection of COVID-19 has been suggested.<sup>3,4</sup> Using saliva samples has a number of 'clinical advantages'; it is less invasive and more convenient to patients as compared to NOS or blood samples<sup>4</sup> (especially desirable in multiple testing for disease monitoring). Secondly, with clear instructions, patients can collect saliva themselves, thereby minimising the risk of virus transmission to healthcare personnel and avoiding use of personal protective equipment.

This potential use of saliva seems scientifically reasonable as it has been shown to contain live COVID-19 viruses<sup>3</sup> possibly containing a pool coming from the lower respiratory tract, nasopharynx and infected salivary glands (for some of the coronaviruses, infection of salivary glands occurs very early in the disease process).<sup>4</sup> Unlike the other SARS virus diseases, the content of salivary COVID-19 (viral load) has been shown to be highest during the first week after symptom onset.<sup>5</sup> This emphasises the role of saliva as a potential source of viral transmission and, as it could be detected in the saliva as long as 25 days after the onset of symptoms, suggesting its potential use for monitoring viral clearance.<sup>5</sup>