

Department for a dental trauma review following splinting of avulsed teeth. The increasing number of dento-alveolar injuries during lockdown might be due to children spending more hours at home playing than they normally would.

Parents attending the Paediatric Department for a follow-up have complained about the lack of information available to them on managing avulsion injury.

Such a lack of easily accessible information directly impacts the prognosis of the tooth and has a significant impact on the quality of life of the child with potential cost and time required for treatment. Improvement in the delivery of services and provision for better information for the public should be a priority during the COVID-19 pandemic where access to dental care is very limited.

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Hydroxychloroquine shortage

Sir, readers will be aware of the autoimmune disease systemic lupus erythematosus (SLE), owing to the associated oral, head and neck manifestations. The efficacy of hydroxychloroquine in reducing the risk of severe lupus flares is well documented.

Given that the emergence of a suitable vaccine against the 2019 coronavirus disease (COVID-19) may be a seemingly distant prospect, several clinical trials are underway to evaluate a potential role for existing drugs. Hydroxychloroquine is one such drug with hypothesised mechanisms of action and *in vitro* evidence supporting the inhibition of severe acute respiratory syndrome coronavirus 2.¹

However, in an almost desperate attempt to lessen the burden of the pandemic, physicians are sporadically prescribing the drug with little evidence informing whether they are appropriate for treating COVID-19.² Propagated in part by President Trump's endorsement, the sudden demand for hydroxychloroquine has created a shortage in its availability to patients requiring this medication.³ The impact of withdrawing the medication for just a fortnight can exacerbate flares and heighten disease activity in otherwise stable SLE patients.⁴ The drug is vital and unique in its ability to prevent further systemic complications and increase chance of survival.⁵

The attention drawn to the COVID-19 pandemic risks compromising the provision

of care to those with chronic conditions. The case for patients with SLE could represent one of many interruptions to treatment. Evaluating the severity of each compromise is essential. The decision to champion hydroxychloroquine so hastily raises yet more questions on the decision-making approaches, which currently show considerable disparity. Several recent clinical studies have investigated hydroxychloroquine for COVID-19 patients but these have been at high risk of bias, hence the need for large randomised placebo-controlled clinical trials to determine the potential benefits and harms before any role can be recommended. This story highlights the importance of an evidence-based approach that we increasingly recognise in the practice of dentistry.

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Age-appropriate antibiotics

Sir, antimicrobial stewardship is as important now as before the pandemic and this includes ensuring correct doses are prescribed. Treating paediatric patients in an Urgent Dental Care Centre at Newcastle Dental Hospital, we have worryingly seen a shocking proportion of children who have been prescribed age-inappropriate, suboptimal doses of antibiotics and subsequently referred for treatment as 'unresponsive to antibiotics'. It is perhaps unsurprising to note a lack of clinical improvement in these cases. Paediatric doses for amoxicillin increased in 2014 and excellent guidance on antibiotic prescribing is available from multiple organisations such as FGDP¹ and SDCEP.² We simply wish to highlight that any child over five years of age should be prescribed an 'adult' 500 mg dose

of amoxicillin. This crucial change in practice will improve patient safety and management not only during this coronavirus crisis, but also to reduce the long-term potential for antimicrobial resistance for future generations.

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Repurposing the 7Ps

Sir, as a British Army Dental Officer I was taught the 7Ps: Prior Planning and Preparation Prevents Piss Poor Performance. Being more polite, the United States Air Force changed the fifth P to 'pitifully'.¹ This is a shame as the surprise and fun of the mild expletive makes the adage memorable. Later versions sometimes substituted 'practice' for the third P.

We were also taught to be 'joined up'. The Faculty of General Dental Practice (FGDP) produced a comprehensive list of guidance, news and resources for general dental practice in the COVID-19 era.² Not surprisingly, there are inconsistencies and differing viewpoints, both within dentistry and with our medical and nursing colleagues about the new normal, particularly concerning aerosol generating procedures (AGPs). These are critical to modern dentistry, but are not unique to us.

It has been noted anaesthetists consider working in the upper airway to be an AGP but dentistry is not mentioned.³ The latest Cochrane commentary on personal protective equipment (PPE) for general dental practice states 'none of the 24 identified studies... was based in the dental environment or included members of the dental team'.⁴ The Centre for Evidence Based Medicine's commentary on PPE in primary care concerns general medical practice. It introduces a new term of aerosol generating exposures (AGE) to include AGPs and additional risks like patients coughing. Also, requiring gold plated evidence may be the enemy of good policy. We need to look at all evidence, both observational and experimental.⁵

Following the Severe Acute Respiratory Syndrome (SARS) outbreak 2002–2004, PPE for dental procedures was proposed.⁶ It did not discuss wider implications, such as

reception, waiting rooms, staff rooms, links to mail and laboratories and so on.

There is a blizzard of information GDPs are required to digest. I do not pretend to have the answer but we need coherent policy in advance of reopening. To paraphrase the 7Ps: we need to Plan and Prepare (both Physically and Psychologically) our staff and our Patients, we need new Protocols and we need to Practise them. We cannot simply show up on the day of unlock. It is also to be hoped we are joined up with our medical and nursing colleagues in this new normal.

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Povidone iodine development

Sir, I write further to correspondence in your columns on reducing virus transmission. Commencing on 17 March, we at Povidien have been working on a solution to the problem and have been in communication with many academic and clinical groups including S. J. Challacombe *et al.*, with whom we shared our ideas to urgently produce a ready to use povidone iodine solution for front-line healthcare workers. During discussions we highlighted some potential pitfalls in the use of the commercially available povidone iodine solutions, and I feel compelled to do the same here.

Following an intensive exploration regarding the use of Videne as a potential product, we came to the conclusion that it is preferential to completely avoid phenol, a component of Videne, as this represents an unnecessary risk. We have therefore produced a product in partnership with a Pharmacy Specials NHS manufacturer, which contains no

excipients apart from water. This has reduced the product expiration to 28 days, however this will be extended in due course as the solution is self-preserving. We have followed the S. J. Challacombe *et al.* dosing protocols as accurately as possible (to standardise the dosing), and we anticipate that the product will be available mid-May, initially in a 5L presentation, primarily for dentists, while a nasal and throat spray will follow in late May primarily for pre-procedural use in the hospital setting. While it cannot now be claimed that my position is unbiased, I can claim my intention from the start of this project was to find a low cost intervention to potentially break the link of patient to healthcare worker transmission. It has been very pleasing to have one's research intention and findings validated by S. J. Challacombe *et al.*, amongst others, and it is these validations that have motivated and enabled the speedy provision of ready to use povidone iodine for dentists and for pre-procedural applications in the hospital setting.

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Successfully protecting staff

Sir, I am the Chief of Dentistry at a tertiary care hospital in the biggest metropolis of Pakistan. The first documented case of COVID-19 in our country was reported in late February at our very own hospital. As cases in our population grew the dental clinic went on an emergency only protocol and to date we have provided dental care to almost 500 patients and performed approximately over 100 dental emergency procedures. During this period we also had 11 patients who subsequently underwent COVID-19 testing for various non-dental reasons; later, two patient visits were verified as confirmed COVID-19 cases.

Whilst the average infection rate for our surgery colleagues at the hospital was 20%, the dental clinic has had zero infections amongst 60 dental staff members including faculty and residents.¹ This fortuitousness can be attributed to strict administrative and engineering controls, and provision of adequate personal protective equipment (PPE) immediately after consulting recommendations which came out from national health services and the American Dental Association.

Special attention towards PPE and initiating a respiratory programme including fit testing for all our dental staff were key elements of our success.² Furthermore, donning and doffing measures for PPE were reinforced to all staff members; adequate training via online meetings and hands-on exercises were provided; and each staff member was asked to observe one another and provide constructive feedback to improve these procedures every day. I would also like to acknowledge the unwavering support from our leadership and department of infection control during this pandemic; the provision of an adequate supply of PPE was dynamically managed and stocked up, which went a long way towards uplifting staff morale.

As there is still limited understanding of the COVID-19 disease, it is important to share the learnings from our experiences to help build the evidence-base. Once any new guidelines come into place we can recalibrate our responses and adjust our priorities.

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The future for dental events

Sir, social distancing measures are predicted to last for some time but networking and face-to-face contact have always been important in the world of dentistry. For example, picking up and trying on a pair of loupes at a trade show cannot be emulated over the internet. Ideally, the exhibition industry will return to its pre-COVID-19 status. Yet, social distancing may well become a way of life, and in that case it will be interesting to see the effect on the future of dental events.

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Altered exodontia techniques

Sir, we write to inform your readers about techniques for non-surgical exodontia we have adapted to at Liverpool University Dental Hospital during the COVID-19 pandemic. As part of the avoidance of aerosol generating