The impact of COVID-19 on oral surgery training

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Abstract

Aim: Coronavirus disease, caused by severe acute respiratory syndrome coronavirus 2, originated in December 2019 from Wuhan, China. This virus has spread worldwide, with over 16 million cases and over 650,000 deaths. The novel coronavirus disease (COVID-19) has resulted in significant impact on the livelihoods of the British public and has had implications for healthcare delivery. The cancellation of elective procedures is likely to affect oral surgery (OS) specialty training. This paper aims to ascertain the extent of any impact of COVID-19 on OS specialty training.

Material and Methods: A survey was created for OS specialty trainees in the United Kingdom. A variety of questions were used, including multiple choice, yes/no, Likert scales and free text answers. All questions were related to the impact of COVID-19 on training.

Results: A total of 34 full responses were recorded. Results showed that COVID-19 has had an immense impact on OS training, with most trainees recording high anxiety levels regarding the future of their training. The overall experience of most trainees involved a reduction in logbook procedures, cancelled study days, courses or conferences.

Conclusion: Although OS training has been deficient during this period, some trainees reported positive experiences while redeployed in other fields or specialties. In addition, we highlight the significant effect on trainees’ mental health. Most trainees suggested a training period extension to remedy deficiencies. From this paper, we identify the wide-ranging effects of the pandemic, and OS trainees now await decisions on the future of specialty training.

KEYWORDS
assessment, education, secondary care, training

Clinical relevance
• Scientific rationale: COVID-19 has caused widespread disruption within the NHS, and oral surgery (OS) has not escaped this. This paper aims to determine the impact of COVID-19 on OS specialty training.
• Principal findings: Results have shown that OS training has been massively impacted by COVID-19, with most trainees expressing strong anxiety towards the future of their training. Most trainees have experienced a reduction in logbook procedures and workplace-based assessments plus cancelled study days, courses and conferences.
• Practical implications: We have identified potential remedies for deficiencies in training, including extension of training period and extra clinical sessions. OS trainees now await decisions on this.
INTRODUCTION

Coronavirus disease, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) originated in December 2019 from the Wuhan province of China. This virus has since spread worldwide, with the total number of confirmed cases exceeding 16 million and over 650,000 deaths at the time of writing. The novel coronavirus disease (COVID-19) has resulted in significant impact on the livelihoods of the British public and has had implications for delivery of healthcare.

The UK Government declared a nationwide lockdown on 23 March 2020, advising members of the public to stay home in order to limit spread of the virus. On 17 March 2020, a letter from the NHS Chief Executive and Chief Operating Officer was sent out to all NHS trusts, ordering postponement of all non-urgent elective operations from April 15, in order to increase capacity within hospitals in preparation for the surge in COVID-19 cases. At the time of writing, most elective operations remain postponed, although NHS England have now advised trusts to 'Where additional capacity is available, restart routine electives, prioritising long waiters first.'

There are 49 oral surgery (OS) Specialty Trainees in the United Kingdom. Trainees must undertake regular clinical assessments along with a number of other requirements in order to pass their Annual Review of Competency Progression (ARCP), and progress towards finally completing the MOralSurg exit qualification. It is therefore logical to hypothesise that trainee experience will suffer as a direct consequence of a reduction in elective procedures.

We carried out a survey to determine the impact of COVID-19 on OS training from the trainees’ perspective and explored potential solutions to the outcomes reported.

METHODS

A survey was created by the authors for all OS specialty trainees in the United Kingdom using SurveyHero, an online survey platform (www.surveymonkey.com). The survey was disseminated by the trainee representative, ensuring that General Data Protection Regulation was maintained and owners of the survey were not given direct names and contact details of trainees.

The survey was distributed electronically on Tuesday 14 April 2020 with a deadline of 8 May 2020, consisting of 38 questions (Appendix 1) assessing the following themes:

- Current training stage and location
- Trainees’ views on the impact of COVID-19 on training
- Redeployment
- Treating COVID-19 patients
- Aerosol-generating procedures (AGPs) and personal protective equipment (PPE)
- The health and wellbeing of trainees

A variety of questions were used (see Appendix 1), including multiple choice, yes/no, drop-down list, Likert scales (0–10 scales) and free text answers. Analysis was carried out using the survey platform’s report function. Data were handled anonymously, and no individual responses were recorded in the results.

RESULTS

Forty-six responses were received out of a total of 49 trainees, however, only 34 responses were complete therefore 12 responses were excluded resulting in a response rate of 69%.

Current training stage and location

Respondents were fairly evenly distributed across first (38%), second (29%) and third (27%) training years, and over half of the responding trainees were from London and Yorkshire. Three trainees (7%) were Out of Programme (OOP).

Trainees’ views on the impact of COVID-19 on training

When asked how concerned they are that training could be affected in the future by COVID-19 (Figure 1), 24% of trainees gave a response of 10, indicating extreme concern, and 50% of trainees gave a response of 8 or higher. When asked the same question on how training has already been affected so far, 35% of trainees gave a response of 10. Fifty-six per cent of trainees gave a response of 8 or higher.

With regard to the various ways in which training was affected (Figure 2), the most common response was cancellation or postponement of study days (94%), while 85% of trainees reported a reduction in logbook procedures. Of the trainees who had study days or courses cancelled, a quarter were rearranged to take place virtually.

Forty-three per cent of responding trainees stated that they had a planned examination or assessment cancelled or postponed.

Figure 3 demonstrates how trainees feel that deficiencies in training could be remedied in the future. Fifty-nine per cent of trainees felt that additional funded study would be helpful, while 76% of trainees believed that extending the period of training would be advantageous. Half of the trainees surveyed also felt that additional daily clinical sessions could help to remedy the current deficiency, that is, 3 session days. Responses within the “other” category included weekend sessions and a reduction in the expected number of measured outcomes such as Workplace Based Assessments.

Redeployment

Fifty-nine per cent of trainees had already been or were due to be redeployed. The most common destination for
redeployed trainees was their local Oral and Maxillofacial Surgery (OMFS) team (41%) although a number were sent to Urgent Dental Care centres (29%) and critical care (18%). Of those redeployed, 47% felt that tasks undertaken during redeployment met competencies in the specialty curriculum.

**Treating COVID-19 patients**

At the time of survey dissemination, 39% of OS trainees had treated a confirmed COVID-19 positive patient within either redeployment and/or regular clinical activity.

**AGPs and PPE**

A quarter of trainees felt that PPE guidelines were unclear. The majority of trainees were aware of British Association of Oral Surgeons (BAOS) and British Association of Oral and Maxillofacial Surgeons (BAOMS) guidelines (91%) and Public Health England (PHE) guidelines (82%). BAOS/BAOMS and local trust guidelines were the most commonly followed (62%).

Forty-seven per cent of OS trainees did not feel that the definition of an AGP was clear. However, trainees differed widely in opinion when asked what procedures constitute an AGP (Figure 4)—94% felt surgical removal of a root with drill

![Figure 1](https://example.com/figure1.png)

*Figure 1* Bar chart illustrating trainees’ Likert Scale responses regarding COVID-19’s effect on oral surgery training (*n* = 34).

![Figure 2](https://example.com/figure2.png)

*Figure 2* Bar chart illustrating specific effects on oral surgery training (*n* = 34).
was an AGP, but 38% felt that a simple forceps extraction was also an AGP.

Trainees overall felt that they had good access to PPE in redeployment (96%) and normal training activity (83%), however, a fifth of trainees had postponed treatment due to lack of PPE.

Health and wellbeing of trainees

Thirty-eight per cent of OS trainees had self-isolated at the time of survey. Reasons included shielding (38%), occupational health recommendation (6%), personal symptoms (38%) or symptoms of a household member (19%). Nine per cent of trainees had been tested at the time of survey.

Trainees indicated high levels of anxiety (Figure 5) with regards to contracting COVID-19 (62% of trainees gave a score of 7 or higher); treating COVID-19 patients (half of the trainees gave a score of 7 or higher) and spreading COVID-19 to their families (79% gave a score of 7 or higher). Forty-eight per cent of trainees felt that anxiety had affected their training capability and 62% felt overwhelmed with information and guidance.
DISCUSSION

Postponing elective dental care for all patients was essential in reducing transmission of disease, and dentists played a significant role in disrupting the transmission rate of COVID-19.6 Throughout this national survey, it is clear that the impact of COVID-19 on OS training is significant. By virtue of the nature of a ‘surgical’ specialty the rate of AGPs is likely to be high, although there remains a debate as to the use of a surgical handpiece, high-speed turbine and piezosurgical handpiece, and the difference between the aerosol or droplet generation. The authors wish to highlight the continued need for OS and the high demand on oral surgical procedures throughout the pandemic period resulting from the increased number of patients presenting in acute settings with dental abscesses requiring surgical input. This comparatively higher demand for OS highlights the importance of the specialty.

As national lockdown measures are gradually lifted, it is currently unclear how long the effects of this crisis will last and when normal service will resume. With the return of routine dentistry, we may see an uptick in the number of unrestorable teeth requiring extraction as a result of delayed presentation. This, in turn, is likely to add to the volume of work required of oral surgeons both in primary and secondary care. With further local lockdowns emerging as a possibility, we explore some of the key areas in which COVID-19 has affected OS trainees.

Training

There were high levels of concern among trainees that training would be affected by the pandemic, and these results were comparable to opinions on how severely training had already been affected, indicating that at the time of the survey a significant number of trainees had already experienced or were expecting to experience impact on their training. The specific changes brought about by the impact on training were explored (Figure 2), highlighting particular components of the training curriculum such as work based assessment completion, logbook procedures and study days/courses. We found that the majority of trainees had been affected in at least one of these ways, which would have a detrimental impact on the trainee’s progression. The Joint Committee on Surgical Training (JCST) has now taken this into consideration for all trainees and updated requirements for progression accordingly and added outcome 10 as a potential outcome of ARCP.7,8 Additionally, it must be noted that OS training has a normal duration of 3 years. Therefore, any duration of altered or hindered training will have a substantial impact on overall training time, especially when compared to other specialties with longer training periods.

All trainees who were due to undertake their exit examination (MOralSurg) in June 2020 have had this postponed as per the joint JCST and Royal College of Surgeons England (RCSEng) statement.9 Our results found that this, in addition to postponement of ARCPs, has affected 42% of respondents (Figure 2).

Out-of-placement (OOP) trainees also had disruption to their training in this period, and some trainees have had to return to OS training on a less than full time basis in order to complete work left unfinished from their OOP year.

Given the issues of disruption to training during this period, we asked participants for suggestions on how the aforementioned training deficiencies could be remedied. Suggestions included an extended training period (76%
selected), additional funded study (59% selected) and additional timetabled clinical sessions (50% selected). The practicalities of these suggestions may throw up their own challenges, such as funding or provision of childcare. The authors are also aware that these options mainly focus on deficiencies in clinical activity, but this is a reflection on the practical nature of the specialty. The new outcome 10 accommodates for these deficiencies, however, it is yet to be seen how training deficiencies will be remedied on a practical basis. \^1

### Redeployment

At the time of survey dissemination, 59% of respondents had been redeployed or were due to be redeployed in the future. Redeployment for OS trainees appears to be varied, with the most common settings being an OMFS team (21%), Urgent Dental Care centres (15%) and Critical Care (6%). Although there are national redeployment guidelines available for medical and dental staff,\^10,\^11 there are no specific guidelines for OS trainees, and any changes to job plans have tended to be on a trust-by-trust basis.

Of the trainees who had been redeployed, the tasks given to them in new roles varied extensively. Less than half of the redeployed trainees felt that these tasks met competencies in the specialty curriculum, but with the understanding that this is an unprecedented event requiring flexibility of all involved, it is commendable that trainees are searching for avenues in which to further their training.

### Treating patients

Oral surgery trainees showed awareness of current guidelines at the time of survey distribution, with 91% of trainees having knowledge of the BAOS and BAOMS position paper guidelines. There was, however, variance in the guidance followed by individual trainees. The guidelines most commonly adhered to were the BAOS/BAOMS position paper and local trust guidelines (62% each). This suggests that trainees are aware and influenced by specialty bodies such as BAOS and BAOMS. At the time of survey dissemination, there was a disparity between the BAOS/BAOMS and PHE guidance regarding AGPs, with the BAOS/BAOMS paper advising that any intraoral examination or treatment should be considered an AGP. This advice was derived from findings that OMFS and ENT surgeons were some of the highest risk groups among all medical specialties.\^12-\^14

Since this survey was carried out, guidance has been rapidly evolving due to emergence of new data and evidence. From the findings in this survey, it would appear that OS trainees will be able to respond to this dynamic flow of new information well, although it should be noted that many trainees (61%) have felt that there is an overwhelming amount of information and guidance.

### AGPs and PPE

The AGP has become somewhat of a buzzword during the COVID-19 pandemic. AGPs have been identified as more likely to cause spread of coronavirus than non-AGPs, due to bio-aerosol production. Some sources have found that dental procedures have the ability to deposit aerosol up to 4 m away from the source, with high contamination detectable up to 1.5 m away.\^15

Ninety-four per cent of trainees felt that surgical removal of a root using a surgical handpiece is an AGP. However, for some other procedures, there is evidently some confusion as to what constitutes an AGP (Figure 4). Thirty-eight per cent of trainees felt that a simple extraction is an AGP. Forty-seven per cent of trainees stated that the definition of an AGP is not clear, and this is likely due to conflicting messages from PHE and BAOS/BAOMS.\^16,\^17

In addition, classifying the risk as to whether or not a procedure is an AGP will determine the type of PPE required. This is another source of confusion for trainees with over a quarter of trainees feeling that guidelines on PPE were unclear.\^17,\^18 The lack of clarity surrounding AGPs highlights the need for further research in order to characterise their risk within dentistry.

### Health and wellbeing

At the time of survey dissemination, 38% of trainees had been required to self-isolate, although only 9% of trainees had tested positive at the time. Twenty-four per cent of trainees had reported COVID-19 symptoms but had not been tested. Although these findings are concerning, the authors are aware that data were collected around the same time that the government was attempting to ramp up testing of symptomatic individuals,\^19 which would explain the lack of testing at the time. Currently, antibody testing has been rolled out to NHS staff\^20 although there is some variability between Trusts, with PCR testing more readily available for new suspected cases. This has undoubtedly reassured many trainees, although doubts are still raised over the specificity and sensitivity of the testing methods.

Oral surgery trainees reported high levels of anxiety with regards to COVID-19 (Figure 5). Results indicate that trainees have more anxiety that they may pass the virus onto their families rather than treating patients with, and contracting COVID-19. Almost half of the trainees felt that increased anxiety had affected their training capability. There should be a distinction made between this and clinical or logistical reasons for training deficiency; trainees feel that training is hampered by anxiety surrounding treatment of patients and the potential consequences of this. The free text responses to ‘What, in your opinion, would help reduce these anxieties?’ were telling. Many trainees commented on inadequate PPE as a source of anxiety, along with lack of widespread testing.

The psychological burden on healthcare workers during the pandemic is of paramount importance.\^21 Some trainees...
have commented that they have taken the decision to isolate themselves from their families, knowing that they are at high risk for contracting the virus. This prolonged isolation along with other sources of anxiety mentioned will likely have an effect on the mental health of trainees, and the authors advise that from a government to a local trust level, adequate measures should be undertaken to safeguard the psychological wellbeing of OS trainees along with the wider healthcare community.

CONCLUSION

Oral surgery training has felt the full impact of COVID-19. Trainees have suffered a significant reduction in clinical activity which has hindered progression, and many will, understandably, be left wondering how this deficiency may be resolved. Through this study, the authors have identified some options in this regard, but it will be up to the deaneries and other stakeholders to decide on the way forward.

This difficult period has created a variety of opportunities within redeployment for some and many will have acquired additional skills and knowledge which will be transferable to their chosen careers. In addition, the reduction in face-to-face contact may fuel a movement to bring clinical practice and training into the 21st century with more emphasis on using technology such as video consultations and use of virtual media to deliver education. A recent example of this is the annual BAOS trainee study day held virtually for the first time.

One aspect that was not addressed in this survey was the disparate impact of coronavirus on Black, Asian and Minority Ethnic (BAME) individuals. At the time of survey dissemination these data were not collected, however, it has come to light that the BAME community are at a higher risk of morbidity and mortality from COVID-19 infection. The effect on OS trainees is unknown at this point, but the authors hypothesise that BAME trainees may feel higher levels of anxiety with regards to coronavirus which may affect their training to a greater degree than non-BAME trainees. In addition, a letter to all Trusts from the Chief Executive and Chief Operating Officer of the NHS5 has prompted some Trusts to pull at-risk BAME staff from the frontlines, which would again disadvantage BAME trainees by reducing clinical activity.

In summary, the findings of this survey outline the trainees’ experiences and how they feel their training should adapt to replace the deficits experienced during the COVID-19 pandemic. With most trainees suggesting an extension of training period, there may be potential impact on both ends of the specialty training pathway, including a potential reduction in numbers of new training positions available for the upcoming year, as well as high competition for post-CCST employment opportunities. This survey was conducted at a relatively early stage of the pandemic, and there is likely to be much uncertainty in the months ahead as it progresses. For this reason, another survey in the near future could offer an insight into whether the perspectives and opinions of OS trainees have remained the same or changed significantly. In the meantime, the authors alongside OS trainees await decisions on specialty training in the midst of the COVID-19 pandemic.

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SUPPORTING INFORMATION
Additional supporting information may be found online in the Supporting Information section.

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