

## Main Article

Mr J Stansfield takes responsibility for the integrity of the content of the paper

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## Abstract

**Background.** Coronavirus disease 2019 imposed dramatic changes on ENT service delivery. Pre-pandemic, such changes would have been considered potentially unsafe. This study outlines the impact of lockdown on the incidence and management of ENT emergencies at a large UK centre.

**Methods.** After modification of pre-pandemic guidelines, ENT emergency referrals data during the UK lockdown were prospectively captured. A comparative analysis was performed with retrospective data from a corresponding period in 2019.

**Results.** An overall reduction ( $p < 0.001$ ) in emergency referrals ( $n = 119$ ) and admissions ( $n = 18$ ) occurred during the lockdown period compared to the 2019 period (432 referrals and 290 admissions). Specifically, there were reduced admission rates for epistaxis ( $p < 0.0001$ ) and tonsillar infection ( $p < 0.005$ ) in the lockdown period. During lockdown, 90 per cent of patients requiring non-dissolvable nasal packing were managed as out-patients.

**Conclusions.** Coronavirus disease 2019 compelled modifications to pre-pandemic ENT guidelines. The enforced changes to emergency care appear to be safe and successfully adopted. Arguably, the measures have both economic and patient-related implications post-coronavirus disease 2019 and during future similar pandemics and lockdowns.

## Introduction

In December 2019, the first reports of an outbreak of atypical pneumonia were announced in Wuhan, China.<sup>1</sup> The World Health Organization subsequently declared the coronavirus disease 2019 (Covid-19) outbreak a pandemic, on 11th March 2020.<sup>2</sup> In order to slow transmission of Covid-19, the UK government implemented an unprecedented nationwide lockdown. The pandemic enforced immense changes and restrictions to all aspects of society, and placed significant pressures on the National Health Service (NHS).

In response to the pandemic, hospitals were forced to implement drastic measures to cope with potential demands imposed by Covid-19 cases. Surgical specialties including ENT endured compelling service delivery changes and staffing re-organisation, such as redeployment of the surgical workforce, operative prioritisation, rescheduling of elective surgical procedures and changes to peri-operative management strategies, with a considerable impact on surgical training and education.

ENT surgeons faced increased occupational risk during the Covid-19 pandemic.<sup>3</sup> The severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) virus predominantly resides in the upper airway, with high viral loads detected in the nasopharynx and oropharynx.<sup>4</sup> Sadly, some of the first Covid-19-related healthcare fatalities were within the ENT community.<sup>5</sup> The exposure of ENT specialists to such unprecedented occupational risk has been acknowledged by their professional body, ENT UK. Recommendations were released to stop all non-essential ENT examinations and procedures during the pandemic, to reduce patient and clinician exposure to Covid-19.<sup>6</sup>

Acute ENT surgical emergencies are, however, inevitable. ENT surgeons are faced with the challenge of providing efficient and timely acute surgical care, optimising patient care resources, and protecting healthcare providers and the wider community during these interactions. As such, the pandemic has mandated adaptations in clinical management strategies and changed the way we deliver high-quality emergency ENT care.

The Covid-19 crisis is considered likely to pose a significant global threat to public safety well into 2021. The current impact of the pandemic has forced all branches of medicine to re-think service delivery models, and ENT practice certainly has been no exception.<sup>7</sup> Various specialties have published reports detailing the changing environment and challenges faced by surgical teams during lockdown.<sup>8,9</sup> However, there are no published UK studies reporting the impact of lockdown on the incidence of acute ENT pathologies and the effects of adaptations to traditional clinical management approaches during the Covid-19 pandemic.

This study aimed to outline the enforced changes to pre-Covid-19 guidelines for ENT emergencies and evaluate the impact of the modified guidelines on patient care at a large

ENT department in the UK operating from multiple sites. This study focused on two common ENT emergencies: epistaxis and tonsillar infection, with particular attention given to peritonsillar abscess.

## Materials and methods

### Ethical approval

The institutional research and development board was approved by the Clinical Audit Department, Fairfield General Hospital, Northern Care Alliance NHS Group (project numbers: 2020 161 and 2020 168).

### Study setting

This study was based at a large ENT department within one of the largest NHS hospital trusts in the UK, covering a population catchment area of approximately one million. Besides interdepartmental referrals, the ENT department receives acute referrals from primary care providers and four emergency medicine (accident and emergency (A&E)) departments within the trust.

### Study design and data collection

In response to the Covid-19 pandemic, existing local clinical guidelines for the management of ENT emergencies were modified to reflect infrastructure limitations. A comparative audit of practice was conducted. Clinical data on all ENT emergencies treated during a three-month period of the UK Covid-19 lockdown (17 March – 17 June 2020) were prospectively recorded through an institutional database. Using electronic medical records, in-patient ward records and an out-patient emergency clinic book, data were captured for all ENT emergency patients treated during the corresponding three-month period in 2019 (17 March – 17 June 2019), retrospectively. Patients were identified using Symphony clinical system codes for A&E attendances. Patient demographics, diagnosis, length of stay, pertinent laboratory and radiology results, acute management, follow-up progress, outcome, and re-presentation rate were captured.

Data on two of the common ENT emergencies (epistaxis and tonsillar infection) were subjected to further scrutiny. Treatment for epistaxis was categorised into conservative, dissolvable versus non-dissolvable nasal pack insertion, and surgical intervention. Treatment for acute tonsillar infection was categorised as conservative (inclusive of immediate intravenous antibiotics received in A&E, with a subsequent oral course and no drainage performed) and invasive (requiring drainage of the peritonsillar abscess or deep neck space infection).

### ENT emergency guidelines in response to pandemic

The loss of ENT wards to other specialties because of the high demands for acute coronavirus-related in-patient beds and the unprecedented demands on the critical care services meant that ENT emergency service delivery had to function with extremely limited bed capacity. This led to the decision to redesign ENT emergency service delivery based on an out-patient setting and increased community-based care. In addition to practical changes to the acute guidelines, the education of healthcare staff (hospital, general practice and community workers), patients and carers played a major role.

All acute ENT guidelines were modified following multidisciplinary consultation, and a new acute ENT referral pathway (Figure 1) was established. ENT UK recommendations were used for added support. Upon ENT department approval, the modified guidelines were distributed electronically to all hospital departments, including A&E.

Specifically, ENT middle-grade doctors (registrars and specialty doctors) filtered all referrals, with the redeployment of core surgical trainees to other specialties. A modified antibiotic policy (Appendix 1) was adopted, in consultation with the microbiology and pharmacy department, to reduce the need for admitting patients requiring aggressive antimicrobial treatments and to allow flexible out-patient management. Based on ENT UK guidance regarding risk stratification, a modified approach was established for common emergencies such as epistaxis and tonsillar infection (Appendix 1). For epistaxis, during initial ENT assessment, patients were offered a face-to-face follow-up appointment or telephone consultation to advise on the subsequent removal of their nasal pack.

### ENT emergency clinic

Enhanced ENT emergency clinics were established within the normal ENT out-patient department for use 7 days a week, from 8 am to 6 pm. Two procedure rooms were set up, with ward-level nursing support, medicinal drugs and equipment, to facilitate clinical assessments of patients, administration of parenteral medications and performance of aerosol-generating procedures. Experienced ENT doctors (middle-grade level and consultants) undertook all assessments and treatments. ENT emergency referrals were diverted to this new acute ambulatory ENT out-patient clinic when appropriate, with the completion of safety triage procedures supported by the A&E departments in the trust.

### Data analysis

Data were stored electronically using Excel® spreadsheet software. Comparisons were made between the two datasets (2019 vs 2020). Statistical analysis was performed using the unpaired *t*-test (Prism software, 2018; GraphPad, San Diego, California, USA). *P*-values of less than 0.05 were considered statistically significant.

## Results

During the lockdown study period, 119 patients were referred from A&E; only 18 patients (15.1 per cent) were admitted for in-patient treatment. In the corresponding 2019 study period, 432 patients were referred from A&E and 290 patients (67.1 per cent) were admitted (Table 1). Generally, there was a reduction in patients referred and admitted during the 2020 study period for all ENT emergencies. Unsurprisingly, epistaxis and tonsillar infections were the most common reasons for acute referrals to the ENT department.

### Epistaxis

There was a 28 per cent reduction in acute epistaxis referrals during the three-month lockdown study period (Table 2). Regarding the modified treatment measures, there was significant resultant drop in the number of patients admitted for in-patient care (7.7 per cent) in 2020 compared to the 2019 study period (93 per cent) ( $p < 0.0001$ ) (Figure 2).

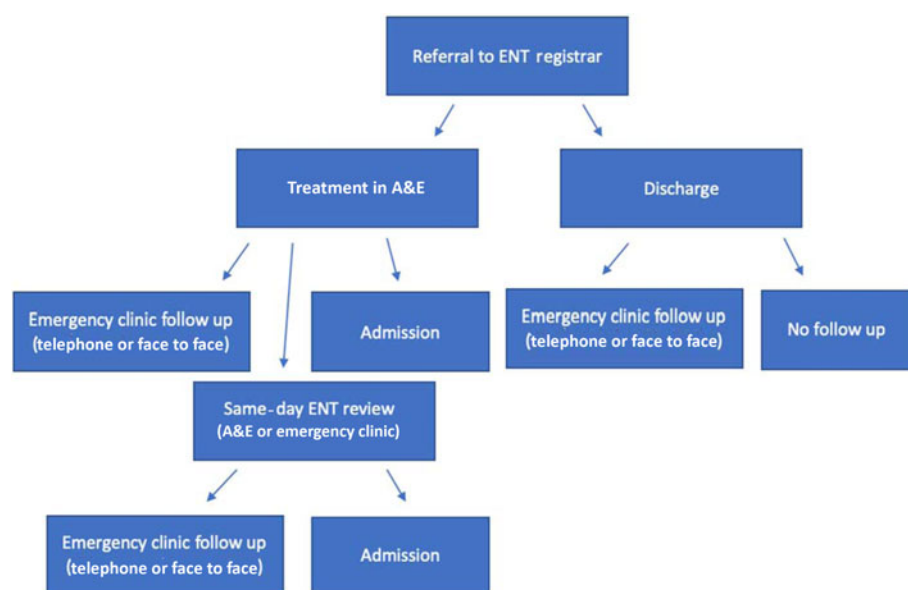


Fig. 1. Summary of acute ENT patient pathways. A&E = accident and emergency

Table 1. Total referrals to ENT during 2019 and 2020 study periods\*

Diagnosis	2019		2020	
	Referrals	Admitted	Referrals	Admitted
Epistaxis	72	67	52	4 ( $p < 0.0001$ )
Tonsillar infections	136	112	29	2 ( $p < 0.005$ )
– Tonsillitis or glandular fever	90	75	14	1
– Peritonsillar abscess	46	37	15	1
Post-surgical complications (e.g. post-tonsillectomy bleeds, post-thyroidectomy bleeds)	25	17	2	1
Otological emergencies (e.g. OM, OE, NOE, mastoiditis, pinna trauma)	52	22	7	2
Foreign bodies (e.g. ear, upper aerodigestive tract)	57	13	17	5
Airway infections (e.g. supraglottitis, epiglottitis)	28	23	1	1
Rhinological or sinus emergencies (e.g. orbital cellulitis, acute sinusitis)	8	5	1	0
Other (e.g. facial trauma, salivary gland infection, other facial cellulitis, malignancy)	54	31	10	3

Data indicate numbers of cases. \*17th March to 17th June. OM = otitis media; OE = otitis externa; NOE = necrotising otitis externa

Table 2. Epistaxis referrals and management in 2019 and 2020 study periods\*

Parameter	2019	2020	% Reduction	P-value
Total referrals (n)	72	52	28	
Age (median (range); years)	71 (9–94)	70 (23–92)		
Male:female (n)	39:28	28:24		
Admissions (n (%))	67/72 (93)	4/52 (7.7)	94	<0.0001
Nasal packing (n (%))	57/72 (79)	37/52 (71)		
Modality of follow up (n)				
– Telephone	N/A	32		
– Face to face	N/A	17		
– Re-presentation	N/A	7 <sup>†</sup>		

\*17th March to 17th June. <sup>†</sup>See Table 3. N/A = not applicable

During the 2020 study period, 90 per cent of patients requiring non-dissolvable nasal packing were managed on an out-patient basis with non-dissolvable nasal packing in situ.

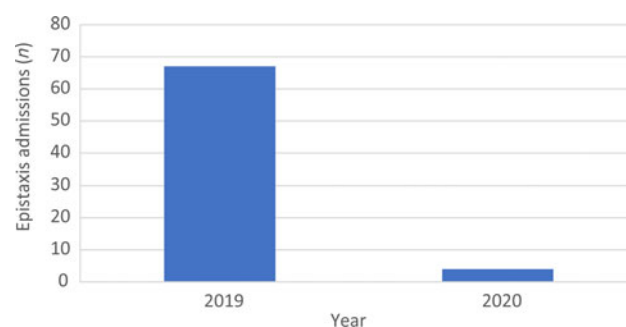


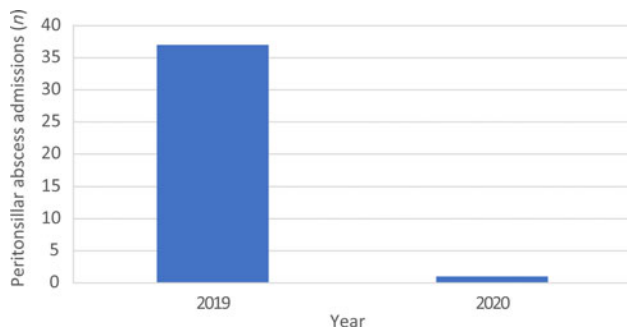
Fig. 2. Total number of epistaxis admissions in 2019 and 2020 study periods.

Interestingly, the rates of nasal packing with non-dissolvable packs during the two study periods remained relatively similar (79 per cent in 2019 vs 71 per cent in 2020). Approximately, 33 per cent of patients removed their own pack at home, with no face-to-face ENT follow up required, and 61 per cent underwent de-packing in an emergency clinic appointment. One patient who was initially packed re-presented to A&E because of pack discomfort and therefore the pack was removed early.

**Table 3.** Re-presentations of epistaxis within 10-day follow up\*

Cases (n)	Initial management	Management at re-presentation	Outcome
1	Not packed (out-patient)	Not packed	Discharged
2	Not packed (out-patient)	Packed	Discharged with E-clinic follow up
2	Packed (out-patient)	Not packed	Discharged
1	Packed (admitted for social reasons)	Not packed	Discharged
1	Packed (admitted for social reasons)	Packed	Admitted for social reasons

\*n = 7

**Fig. 3.** Total number of peritonsillar abscess admissions in 2019 and 2020 study periods.

Seven patients (13.5 per cent) re-presented with a re-bleed within 10 days of initial treatment, but only one patient required re-packing and was admitted for social reasons (Table 3).

### Peritonsillar abscess

There was a 67 per cent reduction in referrals for a suspected peritonsillar abscess (quinsy) in 2020 (Table 4). Similar to the epistaxis patients, most patients (93.3 per cent) with a peritonsillar abscess were managed as out-patients during the 2020 study period, in contrast to the 2019 study period (20 per cent) ( $p < 0.005$ ) (Figure 3).

Interestingly, only 1 patient from the 2020 cohort required a drainage procedure; the remaining 14 patients were managed entirely with antibiotics. During the corresponding 2019 period, 100 per cent of admitted peritonsillar abscess patients underwent a drainage procedure in addition to intravenous antibiotics.

During ENT follow up, all patients were offered the choice of telephone or face-to-face consultations.

At 10 days' follow up, 100 per cent of patients were better clinically and did not require any further treatment. None of the peritonsillar abscess patients progressed to more serious deep neck infections such as parapharyngeal abscess.

### Discussion

The Covid-19 pandemic has necessitated changes to healthcare provisions relating to emergency work. Contrary to initial expectations, rather than the anticipated increase in patient numbers, the total number of attendances to A&E has reduced during the pandemic. Public Health England reported a total number of A&E attendances in week 14 of 2020 of 57 993 patients, compared to week 14 of 2019 which saw 156 717 patients presenting to A&E.<sup>10,11</sup>

This study demonstrates that during the 2020 lockdown, there has also been a reduction in the number of patients presenting with ENT emergencies to A&E within our trust.

Following multidisciplinary consultation at our trust, new clinical guidelines were produced in the early stages of the Covid-19 pandemic response that focused on providing optimal ENT care whilst minimising the risk of Covid-19 transmission. We have revealed that, by using these guidelines, in-patient admissions have been drastically reduced for patients presenting with ENT emergencies. We have demonstrated this with particular regard to epistaxis and peritonsillar abscess, with no associated complications.

### Reduced epistaxis admissions

We observed a statistically significant reduction in the number of epistaxis admissions between the 2019 and 2020 study periods ( $p < 0.0001$ ). Traditionally, all patients with a non-dissolvable nasal pack in situ would require in-patient admission; however, following updated local guidelines, 90 per cent of cases with non-dissolvable nasal packing were managed successfully on an out-patient basis.

Seven out of 52 patients discharged with epistaxis re-presented to A&E. These patients were all reviewed by ENT, and only one of the seven patients required re-packing and admission for social reasons. Despite these re-presentations, there were no adverse outcomes; all patients had been appropriately safety-netted to ensure a return if there was any further bleeding or concerns. Potentially, patients being discharged may require further information and reassurance, to reduce re-attendances.

By adopting an individual case approach in selecting appropriate individuals, we observed that patients can be consulted remotely to ensure resolution of epistaxis, and may self-remove their nasal packing when directed via virtual consultation.<sup>12,13</sup> Thirty-three per cent of patients with non-dissolvable nasal packs in situ in our study were managed with telephone follow up alone, including successfully removing their own pack. Some studies have likened patient self-managed nasal packing in recurrent epistaxis to the principle of intermittent self-catheterisation.<sup>14</sup> There is a paucity of data examining this within the literature, and further exploration is advised to examine the role of out-patient nasal packing and patient perceptions to inform future management strategies.

### Reduced tonsillar infection admissions

We observed a statistically significant reduction ( $p < 0.005$ ) in the number of tonsillar infection admissions between the 2019 and 2020 study periods. In light of the guidance advising reduced examination, we did not confirm the presence of



**Table 4.** Peritonsillar abscess referrals and management in 2019 and 2020 study periods\*

Parameter	2019	2020	% Reduction	P-value
Total referrals (n)	46	15	67	
Age (median (range); years)	30 (17–63)	34 (18–53)		
Male:female (n)	19:18	8:7		
Admissions (n (%))	37/46 (80)	1/15 (6.6)	97	<0.005
Aspiration of abscess (n)	37	1/15		
Modality of follow up (n)				
– Telephone	N/A	12		
– Face to face	N/A	2		

\*17th March to 17th June. N/A = not applicable

peritonsillar abscess in all patients; however, the presence of trismus with peritonsillar swelling was used to define suspected peritonsillar abscess. In this study, there was a reduction in the aspiration of peritonsillar abscesses, from 100 per cent in 2019 to 7 per cent in 2020. On review of the notes, 1 out of 15 patients with suspected peritonsillar abscess underwent surgical aspiration early in the implementation of the new guidelines, and it was felt this was likely to have been inappropriate. Furthermore, during the 2020 study period, 77 per cent of suspected peritonsillar abscess cases were managed with telephone follow up alone.

We propose that it is appropriate to initially trial conservative management of suspected peritonsillar abscess, rather than proceeding directly to drainage.<sup>15,16</sup> Conservative management included a combination of immediate intravenous antibiotics and dexamethasone, received in A&E, and a subsequent oral course administered in the community as per microbiology guidance. During the study period, we saw no significant complications. This management is further supported by guidelines released from ENT UK, during the pandemic, favouring non-operative management where possible.<sup>17</sup> Interestingly, within the literature, there is now support for the non-surgical management of parapharyngeal abscesses in certain paediatric cases.<sup>18–21</sup>

Following our new clinical guidance and ENT UK advice, direct oral cavity examination to confirm the presence of a peritonsillar abscess was not performed in all cases, because of the risk of Covid-19 transmission. We acknowledge that the number of true peritonsillar abscess cases during the study period may therefore be lower than the suspected cases.

### Reasons for reduced ENT presentations

We postulate that the reduction in acute ENT presentations to A&E is multifactorial. It also highlights the possible role of social distancing on the incidence of epistaxis and peritonsillar abscess.

The scientific basis for social distancing interventions in the prevention of Covid-19 transmission has been extrapolated from epidemiological studies examining the spread of other upper respiratory tract pathogens.<sup>22</sup> Therefore, it follows that social distancing will also reduce the spread of pathogens within the microbial profile of peritonsillar abscess.<sup>23</sup> The pathogenesis of peritonsillar abscess remains controversial, and further evidence-based research is required to challenge traditional theories.<sup>24,25</sup>

Modified patient expectations may also be involved in the reduced incidence of acute ENT admissions. Indeed, changing

behaviours and concerns of the general population during the pandemic may have adjusted public perception of emergency services, with more patients following Public Health Guidance and seeking community-based treatment, ensuring appropriate and rational use of emergency department resources.

There have been concerns within the surgical community that possible patient reluctance to attend at emergency departments, because of a fear of catching Covid-19, would cause delays in clinical presentation and lead to patients presenting with advanced stages of disease and surgical complications.<sup>26</sup> Fortunately, we have not observed increasing rates of deep neck space infections resulting from delayed peritonsillar abscess treatment, nor patients presenting with haemodynamic instability following prolonged home management of significant epistaxis within the study period.

Furthermore, there has been a reduction in elective procedures during the coronavirus pandemic and, therefore, it follows that there would be a reduction in surgical complications. There has hence been a reduction in the absolute numbers of post-surgical complications and ENT admissions during this period.

### Managing patients in the community

Following a change in clinical practice, we observed a considerable reduction in in-patient admissions for both ENT emergencies (epistaxis and peritonsillar abscess), with most patients previously requiring admission now being successfully managed in the community.

Interestingly, numerous other surgical specialties have taken advantage of the ambulatory care model for many years, something that so far has been underutilised in ENT. Through the use of a regular ENT emergency clinic, we have shown a significant reduction in in-patient ENT admissions.

The role of technology has been instrumental within this service change, with surgical teams increasingly utilising virtual consultations to monitor patients' progress at home.<sup>27–32</sup> Further utilisation of technology would be important to continue to build on the progress with ambulatory care clinics that has been made during the pandemic. The role of early senior otolaryngologist involvement has also facilitated reduced in-patient admissions, and it will be important to ensure that junior colleagues continue to be supported as we move forwards.

We also consider that the modified patient outlook on home-based treatment during the pandemic will have contributed to this success, with increasing patient awareness of the

associated nosocomial risks of hospital admission and adequate care-giver support in the community as more people work from home during the lockdown. This change in service delivery will have significant socioeconomic benefits within the NHS and is important to consider in the recovery of services following the pandemic. Further cost-analysis studies are required to examine the financial impact of emergency out-patient care versus in-patient admission.

### Multidisciplinary response for rapid service change

Our experience demonstrates the importance of adopting a multidisciplinary approach in response to an unprecedented event such as the UK lockdown, in order to deliver timely and effective service change. We showed that, by recruiting all members of the multidisciplinary team, including emergency department physicians, microbiologists, estates teams, information and technology departments, nursing colleagues, and community teams, a successful change in clinical practice can be implemented on a rapid basis.

### Study limitations

We recognise that this research is subject to some limitations. Mainly, given the nature of the data collection, the number of cases may be underestimated. Especially with regard to tonsillar infection rates, our data are limited to adults, as a result of the structure of services at our hospital. In particular, patients with tonsillitis aged under 18 years are referred and are also seen directly by the paediatrics department. As such, the true number of total cases may be underestimated, and the proportion of paediatric patients with tonsillar infections are not accurately reflected in our data.

We also could only comment on suspected tonsillar abscess based on the clinical history and description from the referral source, for the 2020 data. Following our new clinical guidance and ENT UK advice, direct oral cavity examination was not performed in all cases to confirm the presence of a peritonsillar abscess, because of the risk of Covid-19 transmission. For similar reasons, some patients were reviewed via telephone consultation. We therefore acknowledge that the number of true peritonsillar abscess cases during the study period may be lower than the number of suspected cases.

Given the retrospective nature of the 2019 data, it was difficult to include all general practitioner referrals to ENT as this was not recorded at the time, unlike A&E referrals where we utilised coding data. In particular, we did not include data from cases that were simply discussed with advice given, only those that required review in clinic or admission. This should be considered when interpreting the comparative data, as the inclusion of general practitioner referrals may have revealed a higher number of total ENT emergency cases, and therefore a greater reduction of admission or presentation to ENT rates, because of the new guidelines.

Given the rapid onset of the Covid-19 pandemic and therefore prompt implementation of new guidelines, further studies need to be performed to determine the long-term effects of the new management pathways for ENT emergency cases. Currently, we are unable to comment on potential complications or re-admission rates after 10 days. However, the group is performing ongoing data collection, and we hope to provide further information relating to the long-term sequelae of changes to our emergency management of ENT emergencies. Given the nature of our follow up, we are unable to present

data relating to time taken for the resolution of symptoms, and this would require additional comparative studies. Cost-benefit analyses of the new management protocol and studies evaluating patient satisfaction should be considered, as these would provide further evidence regarding whether to continue using the new ambulatory pathway.

### Conclusion

We observed a dramatically reduced number of epistaxis and peritonsillar abscess admissions during the Covid-19 UK lockdown.

Traditional management pathways have been successfully adapted to reduce in-patient admission rates and requirements for invasive procedures, thereby minimising the risk of Covid-19 exposure of healthcare professionals and patients, whilst ensuring high-quality patient care.

The evolving pandemic and changing clinical environment demonstrate the need for remodelling of traditional care pathways for future otolaryngology practice. Further studies are required to determine the long-term implications of such changes.

- Epistaxis and peritonsillar abscess admissions were dramatically reduced during the first coronavirus disease 2019 (Covid-19) UK lockdown
- Traditional management pathways have been successfully adapted to reduce in-patient admission rates and invasive procedure requirements
- New management pathways minimise risk of Covid-19 exposure of healthcare professionals and patients, whilst ensuring high-quality patient care
- The evolving pandemic and changing clinical environment demonstrate the need for remodelling of traditional care pathways for future otolaryngology practice

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**Competing interests.** None declared

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## Appendix 1. Modified approach for common ENT emergencies

ENT emergency	Current in-patient antibiotic management	Antibiotic mitigation for out-patient management	Additional management
Tonsillitis	IV benzyl-penicillin + metronidazole	IV ceftriaxone 2g OD + IV metronidazole 1 g OD	3–5-day course. If good response day 1, change to orals
Peritonsillar abscess	IV benzyl-penicillin + metronidazole	IV ceftriaxone 2g OD + IV metronidazole 1 g OD	May require aspiration / longer duration. If good response day 1, change to orals
Supraglottitis	IV ceftriaxone + metronidazole	IV ceftriaxone 2 g OD + IV metronidazole 1 g OD	Close clinical assessment of airway/stridor
Neck abscess	IV ceftriaxone + metronidazole	IV ceftriaxone 2 g OD + IV metronidazole 1 g OD	Duration guided by response
Sinusitis	IV co-amoxiclav	PO co-amoxiclav 625 g TDS + amoxicillin 500 mg TDS	
Orbital cellulitis	IV co-amoxiclav (adults)	High dose PO ciprofloxacin + PO clindamycin	
	IV ceftriaxone + metronidazole + flucloxacillin (paeds)	IV ceftriaxone + IV metronidazole (paeds)	
Acute otitis media	IV amoxicillin	High dose PO amoxicillin	
Mastoiditis	IV co-amoxiclav	IV ceftriaxone 2 g OD	Consider peripheral longline if possible
Skull base infection	IV ceftriaxone/meropenem/Tazocin (pump)	IV ceftriaxone 3 g OD or meropenem 2 g BD ± PO clindamycin	Consider peripheral longline if possible
Pinna cellulitis	IV ciprofloxacin + flucloxacillin	High dose PO ciprofloxacin + PO clindamycin	

### Epistaxis Covid-19 summary guidance

Advise firm pressure for 20 minutes on soft part of nose.

Avoid FNE if possible. If necessary, please use full FFP and treat as per AGP.

If patient is to be packed, only pack the side that is bleeding. Use Rapid Rhino if available.

Consider if patient can be sent home with pack in situ, with syringe and saline to moisten pack.

- Discuss with patient risk vs benefit of discharge vs in-patient stay
- To discharge home with pack in situ, patient must be: GCS 15/15, and able to remove pack independently
- Consider tranexamic acid prescription where no contraindication
- Bloods stable – Hb/INR/plt

Give patient a leaflet with safety netting and explanation of pack removal after 72 hours.

Offer telephone (if able to remove pack independently) or face-to-face appointment for pack removal.

Give department number to call if problems. Ensure given Naseptin/Sterimar/Otrivine TTO.

### Acute tonsillar infection Covid-19 summary guidance

Based on initial history and non-invasive clinical examination, suspicion of tonsillitis or peritonsillar abscess – A&E to give immediate IV dexamethasone, antibiotics, fluids and analgesia.

If peritonsillar abscess, treat as per tonsillitis with trial of conservative management in first instance. No immediate aspiration.

Consider if patient safe to discharge, with telephone follow up at 24 hours, oral antibiotics and analgesia.

On follow up if still suspecting peritonsillar abscess, invite patient for face-to-face review and aspirate in E-clinic with full PPE if required.

If patient not safe for discharge (unable to drink / evidence of deep neck space infection / social circumstances), admit as required.