

Assessment of Compliance with Standard Operating Procedures for Aerosol Generating Procedures: A Clinical Audit

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Background

The COVID-19 pandemic required rapid restructuring of restorative dental services to provide urgent dental care. A standard operating procedure (SOP) guidance document was developed at Guy's and St Thomas' Hospitals to mitigate the risk of aerosol generating procedures (AGP).

Aims

Assess compliance with novel infection control protocols outlined in SOP guidance during COVID-19 and assist the resumption of routine restorative dental services.

Method

A prospective two-cycle audit was conducted between 04/05/20 and 29/05/20. Data collected evaluated the compliance of the restorative emergency service with the SOP criteria. A weekly summary was disseminated to the COVID-19 clinical governance team.

Standard

Guidelines for Standard Operating Procedures for Aerosol Generating Procedures During COVID-19 Pandemic: Guy's and St Thomas', 2020.

Criteria – 100% adherence

1	AGP to take place in a side surgery on Floor 21.
2	Clinician leading AGP treatment to undertake a maximum of one session per day.
3	Nurse assisting AGP treatment to undertake a maximum of one session per day.
4	AGP treatment session to be completed within 4 hours from donning of a disposable FFP3 mask.
5	Rotation between dental surgeries after each patient AGP treatment.
6	PPE must be donned when collecting a patient from the waiting area.
7	Enhanced PPE must be donned during AGP treatment.
8	Surgery can be disinfected 20 minutes after completion of an AGP treatment.
9	All patients must be screened for COVID-19.

Implementations

1. Review and update infection control protocols.
2. Disseminate information regarding changes to the restorative emergency service to all members of staff.
3. Improve digital record keeping practices on SALUD.
4. Streamline patient booking system.

Results

174 patients were treated over the 4-week period.

Cycle 1

- 89% of AGP treatments adhered with the SOP criteria
- 28 Restorative AGP lists were performed between 04/05/20 and 15/05/20.
- 95 patients were treated
- 84 extirpations and 11 restorative procedures were performed.
- 3 AGP lists overran the recommended 4 hours by 13, 56 and 19 minutes respectively.

Cycle 2

- 91% of AGP treatments adhered with the SOP criteria.
- 23 Restorative AGP lists were performed between 15/05/20 and 29/05/20.
- 79 patients were treated
- 69 extirpations and 10 restorative procedures were performed.
- 2 AGP lists overran the recommended 4 hours by 20 and 30 minutes respectively.

Additional findings

- Poor compliance from referring departments with digital record keeping
- Impaired communication between clinician and patient due to enhanced personal protective equipment.

Discussion

The audit demonstrated good compliance of clinical staff with evolving infection control protocols, which facilitated the safe management of 174 patients and reinforced the successful implementation of the SOP guidance document.

Patient attendance

An average of 10 patients were treated daily with an increase in attendance noted between 11/05/20 and 22/05/20 (Figure 1). 16 more patients were treated during cycle 1, which may reflect the improved access to urgent dental care centres.

Treatment needs

89% of treatment performed were dental extirpations for the management of irreversible pulpitis and acute periapical periodontitis associated with infected and necrotic pulp. 11% of treatment comprised of acute trauma management and bridge sectioning (Figure 2).

Barrier to communication

The enhanced personal protective equipment reduced effective patient communication. To assist with the consent process and ensure appropriate post-operative management of the patient an information leaflet was developed and published within 3 working days (Figure 3). Leaflets were provided to all patients receiving endodontic intervention.

Transitioning to routine services

An induction was held for all members of the acute dental care (ADC) team. This enabled the safe transition of services back to ADC staff and for restorative clinicians to resume routine services. Data from this audit has supported the resumption of outpatient dental services at Guy's and St Thomas' Hospitals.

Patient Attendance on Emergency Restorative Service

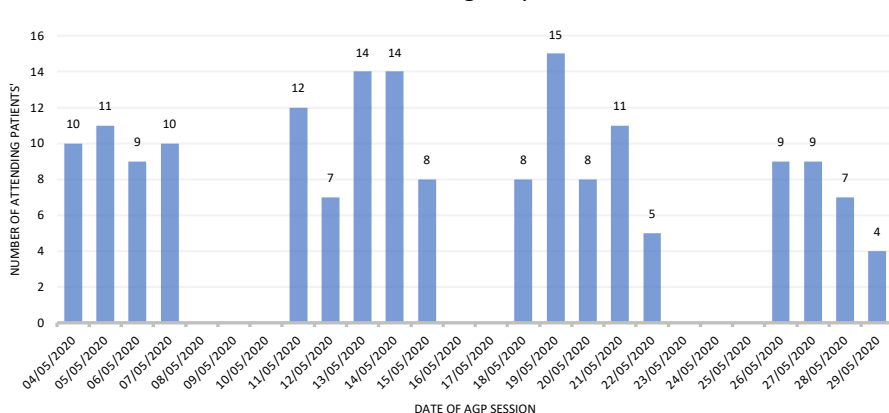


Figure 1. Patient attendance numbers on the restorative service

Treatment Provided on Emergency Restorative Service

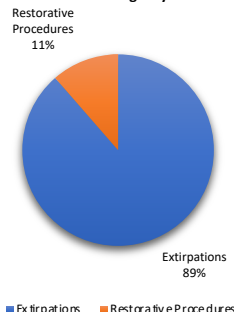


Figure 2. Treatment provided on restorative service

Emergency Endodontic Treatment – Aftercare Advice

This leaflet provides information about the treatment you have received today. If you have any further questions or concerns, please contact us, using the details on the back of this leaflet.

What treatment did I receive today?
The treatment you have had today is called a dental extraction. This is an emergency treatment where the nerve is removed from inside your tooth and an antibacterial dressing is placed to help reduce your pain. A temporary filling has been placed for you until you can see your family dentist as we do not do all routine services here.

What should I expect to feel following this treatment?
You will feel numb after the procedure and this may last for a few hours. It is normal for you to have some pain after the treatment and this will normally decrease over the next few days. Please use pain relief medication if needed. You may also notice some bleeding or swelling. Keeping the pressure on it will reduce the bleeding.

Can I brush my teeth as normal?
You should continue to brush your teeth twice a day with fluoride toothpaste and use any additional interdental cleaning aids that you would normally use.

What are the next steps I must take to save my tooth?
This treatment was performed to reduce the pain you were experiencing. This is the first stage of a root canal treatment and therefore it is important for you to attend your dentist when you can have the remaining treatment completed. You should take care when eating until you are able to visit your dentist again to minimise the risk of tooth fracture.

What is the difference between an extraction and a root canal treatment?
An extraction is the first stage of a root canal treatment. The remaining treatment is similar but will allow for a definitive filling to be placed for you after it is complete.

Who should I contact if I have a problem?
Your family dentist can provide you with some advice. If you have any further questions regarding your treatment you can contact us using the details below.

Figure 3. Published patient information leaflet