

Restarting elective OMF surgery COVID-19 recovery phase

Background

This document refers to patients on waiting lists for elective surgery under GA, it excludes Head and Neck cancers covered in both BAOMSⁱ and NHSⁱⁱ documents. Case prioritization should be completed as per RCS guidelines based on clinical needⁱⁱⁱ

This is to be read in conjunction with more generalised NHS guidelines “Operating framework for urgent and planned services in hospital settings during COVID-19 Version 1, 14 May 2020”^{iv}

Consideration should be given initially to 2 consultant operating until throughput has returned to normal to avoid de-skilling due to prolonged period of non-operating. Where possible training should be factored in to all return to elective activity plans.

List should not be booked to what was considered 100% capacity, 75% of original capacity has been suggested. Thought should be given to work load where team members (surgical / anaesthetic) have been re-deployed to COVID “frontline” and may need support in returning to routine work. It is envisaged that there will be a slow return to “maximum” capacity.

Priority 1a & 1b and 2 patients are managed in emergency / urgent care settings
Priority 3 and 4 procedures ideally in COVID protected areas to minimize risk of transmission to patients.

In line with NHS Chief Executive, Simon Stevens’s letter of 29th April^v, the move to Priority 3 & 4 routine and non-urgent work should be made on a local and regional basis, based on capacity and availability of resources. Clearly non-urgent surgery to be started once there has been sufficient expansion of services to accommodate urgent services.

Waiting lists should be reviewed and prioritised (with particular reference to long waiters) and patients on waiting lists kept up to date with the current local situation.

Surgeons need to be aware of local trust policy and the possible re-organisation of services to COVID-free or cold sites and pathways for elective work. This would extend to staff allocation by limiting staff rotation to prevent deployment between hot and cold sites. Separate sites or hospitals would be seen as the Gold standard. In addition, chronological separation such as appropriate spacing and length of appointments to facilitate social distancing to minimize patient contact, where same site or department, has to be used for all patients.

Aerosol Generating Procedures

It is interesting to note that an NHS Scotland literature review of AGP infection transmission summarised 367 papers and took into consideration the WHO guidelines of 2014. In essence this showed weak evidence for respiratory infection transmission via AGP with the following procedures:

- open suctioning of the respiratory tract of mechanically ventilated patients
- dental procedures using high speed devices such as ultrasonic scalers and drills
- high speed cutting in surgery/post mortem procedures
- manual ventilation
- non-invasive ventilation
- performing a tracheotomy
- performing tracheal intubation

Whilst SARS-CoV-2 RNA can be found within blood, faeces and lacrimal fluid, and high speed cutting can produce an aerosol, there is currently no evidence to support the infectivity of this detected viral material, or to suggest that inhaling aerosolised versions of these fluids would result in infection. This is in line with the findings of risk of exposure of SARS-1 in 2003^{vi vii}

For all elective surgery, an attempt at risk stratification of aerosol generation should be made. Based on likely use of high speed drilling with water spray the following is suggested:

AGP	vs	non AGP
Odontogenic cysts / benign tumours		Soft tissue biopsy
Endosseous implants		Non surgical extractions
Surgical removal of teeth		Removal of hardware
Orthognathic surgery		TMJ arthroscopy
TMJ replacement		Intra-oral salivary gland
Secondary reconstruction for trauma		removal
Craniofacial Surgery		Sialendoscopy
		Parotidectomy
		Skin cancer excision and local flap
		Alveolar bone grafts for cleft repair

PPE usage for AGP and non-AGP procedures is well covered in government documentation^{viii}

Patient Selection

1. Confirm in advance patient is not in shielded group, is asymptomatic for COVID-19, telephone / attend anywhere consent with questionnaire to risk assess (factors below) and decision to proceed documented with attendant risks, and willing to self isolate for 14 days preoperatively. Remember that others in the same household will also need to self isolate for 14 days, or live elsewhere.
 - Pre-Surgery Screening
 - Have you tested positive for COVID-19 in the last 7 days?
 - Are you waiting for a COVID-19 test or the results?
 - Do you have any of the following symptoms: ^{ix}
 - New, continuous cough*?
*A new, continuous cough means coughing for longer than an hour, or three or more coughing episodes in 24 hours. If the patient usually has a cough, it may be worse than usual.
 - High temperature or fever?
 - Loss of, or change in, sense of smell or taste?
 - Do you live with someone who has either tested positive for COVID-19 or had symptoms of COVID-19 in the last 14 days?

If the patient answers '**NO**' to **ALL** of the questions, proceed with scheduling surgery

If the patient answers '**YES**' to **ANY** of the questions, patient to be tested, surgery to be deferred and patient re-assessed after test result received in 14 days

2. Specific risk factors for developing severe COVID-19 infection with serious consequences to consider include the following conditions (adapted from ENT UK guidelines May 2020):
 - a. Increasing age, especially over 60 years old
 - b. Patients from care homes and nursing homes
 - c. Chronic lung disease or moderate to severe asthma
 - d. Uncontrolled ischaemic heart disease or cerebrovascular disease
 - e. Hypertension
 - f. Immunocompromised state - malignancy, smoking, transplant patients, immune deficiencies, HIV or AIDS, use of steroids, immunosuppressant therapy
 - g. Diabetes
 - h. Obesity / Sleep apnoea
 - i. Frailty
 - j. BAME status

Pre Surgery

- Social distancing should be built into pre-op work up. Minimal visits/ staggered and lengthened appointment times to prevent crowding of waiting room.
- Consider facility of text notification of patient waiting in car when ready for appointment.
- Same day admission for surgery.
- Pre-op self-isolation current guidance is 14 days.
- Covid swab maximum of 72 hours prior to surgery.
- Use Personal Protective Equipment (PPE) in line with the latest guidance from PHE.
- It is worth noting that at present, with lower incidence of COVID, a patient with no symptoms is estimated to have a 1:1000 or less risk of COVID infection. The negative predictive value of the newer more accurate tests is 100%. (personal Communication from Consultant Microbiologist 28 May 2020). However, at the moment there is still much debate over the accuracy of a negative COVID PCR test. But there is an argument for stating that if negative the patient should be treated as truly negative.

Consent

Consent needs to include the “material risk” of becoming infected and possible effect on recovery. This is currently very difficult to quantify, particularly in this patient group. Currently thought to be $\leq 4\%$ in oncology group. Move to hot / cold site and rate of reduction of Covid-19 in the local community to a baseline similar to SARS-1 with time should lower this risk.

Be aware of the COVID surgery collaborative publication^x that has shown that pulmonary complications occurred in half the patients with perioperative COVID infection. The overall 30 day mortality was 23.8%. The risk was higher for men over 70years old. This reinforces the importance of ensuring patients do not have COVID pre surgery by preoperative isolation and testing. And then postoperative care to avoid infection post surgery.

Surgery

- Normal good surgical technique should minimize risks of infection, we would discourage significant variation from your normal practice as well rehearsed surgery should carry less risk to all.
- Attention to plume from electrocautery if needed.
- Consider avoiding Piezoelectric saw if sufficiently confident in using drill and saw as potentially increased aerosol generation.
- Use self drilling self tapping screw systems where possible.
- Consider 0.2% povidone iodine m/w or 1% H₂O₂, skin prep povidone iodine or aqueous chlorhexidine gluconate (Tisept) if allergic although this is not well proven it is not unreasonable to suggest it may have a beneficial effect in reducing viral load^x.

- Once surgery is complete, time is required for clearance of aerosols, before the room can be entered without an FP3 mask. The time required depends on number of air changes per hour. As outlined in WHO guidance, in a single room, potentially in an outpatient setting there is a minimum of 6 air changes per hour. After 5 air changes 1% of airborne contamination is thought to remain. In a single room with 6 air changes per then it will take up to an hour for clearance of infectious particles. Therefore consideration should be given to the facilities that AGP's are done. Use of ventilation and HEPA filtration can significantly increase clearance of infectious particles and reduce down time between cases.^{xi}

Post Surgery

Early discharge from hospital.

Post operative 14 day self isolation to decrease risk of Covid during recovery period.

Continued audit of outcomes – infection rates / increase in complications due to break in regular work flow / loss of routine.

Additional specific considerations in Orthognathic surgery

Awareness of need and availability of the following – e.g.

- Orthodontic support.
- ITU / HDU for IMF if needed / used.
- Maxillofacial Laboratory staff and support / availability.
- Radiology services available for non-urgent cases.
- On-line planning services available if used.
- Theatre fully equipped and all staff familiar with equipment and stock if there has been a need to move theatre/ working in new venue.

Minimise number of hospital visits e.g. hooks placed and wafer check at same visit. Liaise with your orthodontist regarding of timing of hook placement.

Discharge next day unless airway or bleeding risks.

Post op 14 day self isolation to decrease risk of Covid during recovery period.

Minimise hospital visits by combined Orthodontic and OMFS review.

Continued audit of outcomes – infection rates / increase in complications due to break in regular work flow / loss of routine.

Final Thoughts

These guidelines support local policies for the safe return to elective Oral & Maxillofacial Surgery. Surgeons should keep patients at the forefront of any decision making and work in partnership with patients to ensure safest care.

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