

Cardiac Theatres COVID -19 Guide

This pathway has been generated using the SCTS / ACTACC / SCPS guidance document for UK cardiac and thoracic teams for procedures on patients with COVID 19, and has been adapted for local use using input from members of the Cardiac Team at RSCH.

This guide is not finalised and is under review.

In the event of a patient with a confirmed case of COVID -19 requiring cardiac surgery please follow the following guide.

This guide is aimed at:

- Surgical team
- Anaesthetic team
- Theatre staff
- Perfusionists
- Cardiac ward/ ICU
- ACP

Principles:

Only essential and lifesaving surgery where there is no other viable option should be performed on a suspected or confirmed COVID-19 patient. The decision to operate should be a multi-disciplinary decision involving at the surgeon and the anaesthetist.

Patients should be appraised of the added risk associated with the acute viral infection as part of the consent process, and their views should be documented on any advance directives, long term ITU care and end of life care.

Practical considerations:

The number of personnel involved during the intraoperative care of a patient with confirmed COVID-19 should be kept to a minimum. Interventions are to be confined to 1 operating theatre.

This pathway focuses on staff and patient safety. A designated theatre must be specified for the treatment and personnel must be kept to a minimum.

APPROPRIATE PPE MUST BE AVAILABLE FOR ALL STAFF.

Triage for Surgery:

- COVID-19 POSITIVE patients are unlikely to survive the lung sequelae of CPB so should only be operated on as a last resort.
- SYMPTOMATIC and suspected (but not proven positive) patients are to be operated on with full precautions and assumed positive. Avoid CPB if possible.
- TAAD: If over 75 years and symptomatic or positive, should be treated medically and hope for chronicity. Under 75 to have urgent surgery. Age guidelines can be adapted according to other co-morbidities.
- Most likely to be TAAD or aggressive endocarditis
- Cardiac arrest prior to skin prep: abandon procedure and do not commence.

Considerations for surgical team:

- Avoid two-consultant' cases for any definite COVID positive cases as it increases the chance of losing two key members of staff should they become infected.

- Patient to remain in theatre if bleeding cannot be stopped satisfactorily to close. If the chest is packed with swabs to stop bleeding the skin closure should be performed at the very least before transfer.
- Extended or heroic procedures are not to be undertaken, if an operation has continued at length and a positive outcome is unlikely to be achieved then a discussion to cease surgery needs to take place with the team. Consider a lower threshold for stopping surgery with considerations of factors such as age and comorbidities.

Before Patient arrival:

The first person aware of a potential emergency case requiring cardiac surgery will be usually be the **ACP**

ACP suggested duties:

1. If an emergency case occurs out of hours please inform switchboard to call all team members in and relay the information that the patient is COVID -19 positive or suspected.
2. Contact Site Manager on 8152 and specify number of hoods and batteries required. (if batteries unavailable send someone to General ITU to obtain them)
3. Contact theatre co-ordinator to tell them the hoods and batteries are coming.
4. Stand-by to alert personnel caring for patient to bring patient to theatre (i.e. SECAMB or ward) ONLY when the whole team is assembled in full PPE.
5. Remain available to relay messages to the wider team from anaesthetist and SECAMB/ Ward.
6. Determine the location/ward receiving the patient post operatively and inform the theatre co-ordinator and anaesthetist.
7. If an emergency occurs at night there will be no staff available to act as runner outside theatre. Please provide assistance to theatres or allocate an individual to act as a runner for the following purposes:
 - Sign for blood and blood products
 - Run TEG, ROTEM
 - Relay messages
 - Pass equipment items to theatre
 - Fetch stock as required

Theatre co-ordinator suggested duties:

- Liaise with ACP who will have contacted site manager for hoods/ batteries
- Provide all PPE equipment (gown, masks, visors etc.)
- Alert Anaesthetic team to prepare in full PPE (they will get trolley)
- Alert Surgical team to prepare in full PPE
- Alert Perfusion team to prepare in full PPE
- Assemble Scrub Team to set up in middle room in full PPE
- Display clear signage and put strap across corridor
- Place Bins for doffing PPE in corridor outside scrub sink door and in theatre in front of gowning area.
- Post op contact CICU or GITU to send a member of staff to theatre wearing full PPE for handover
- Book a deep clean for theatre to commence 20 minutes after everyone has left theatre (air change)
- Alert SSD and ensure that waste is double bagged in orange bags for collection.

Zones:

CLEAN ZONE is the middle room

DIRTY ZONE is the operating theatre

BUFFER ZONE is the anaesthetic room

DONNING AREA will be in theatre preoperatively and in the middle room intra-operatively if absolutely necessary.

DOFFING AREA will be before the scrub sinks. Personnel must 'doff' all PPE except for respirator/hood/facemask before exiting. Respirator/hood/facemask is 'doffed' outside theatre.

Preoperative phase:

Staff should consider their hydration and use of toilet for comfort before starting

Team briefing prior to patient arrival

ALL TEAM MEMBERS are to don full PPE as cardiac surgery is an AGP (Aerosol generating procedure) due to sternal saw debris and potential lung injury intra-operatively.

- A buddy system for PPE is advised to double check PPE coverage and assist with hood respirator and battery/belt.
- Setting up of instruments must be in the clean zone DO NOT enter the dirty zone until told to do so by the anaesthetics team.
- The Perfusionist will prime the pump at the earliest opportunity before the theatre becomes a dirty zone. They will retreat to a clean area before the patient arrives.
- Team Briefing with staff in theatre before patient arrival. Runner stationed outside to alert teams to come to theatre.
- Only the Anaesthetist and ODP or anaesthetics nurse will be present to greet the patient who will enter through the main theatre doors (not the anaesthetic room).
- Consent will be obtained by the Consultant anaesthetist

Only when the whole team has alerted the **ACP** that they are ready to receive the patient into theatre, may the **ACP** send for the patient.

Intraoperative phase:

No staff should enter or exit theatre until the case is completed. If additional staff are needed, they should not enter the theatre until they are in appropriate PPE for the area, they are working in.

This should be displayed on wall in donning area to reflect current PHE guidance.

The designated exit point for staff is via the donning and doffing area which should only be used if absolutely critical during the intraoperative phase.

All staff present should be recorded upon theatre recording system to allow for contact tracing.

During surgery the circuit must not be disconnected the command for lungs down can be performed by putting the ventilator on stand-by.

Specimens should be double bagged and labelled high risk (category B biohazard)

Equipment and drugs brought into the dirty zone should be done using trays to avoid contact between clean and dirty staff and areas.

This pathway has been devised by Anna Martin and Margaret Tawengwa (Surgical Care Practitioners) with valuable input from Consultants and other members of the MDT. Approved by CPG

Bagged samples are passed outside dirty zone to clean runner via buffer zone (anaesthetic room) using no touch tray technique and taken to ABG machine. User wearing appropriate PPE samples blood and discards sample immediately. Clean runner brings back to runner in dirty zone and then to anaesthetist/perfusionist who can review the results.

Transfusion products will come from porter, to clean runner, to staff within dirty zone via buffer zone to then be checked, the box should stay outside the dirty zone.

Post-operative phase:

Handover will take place in theatre, therefore personnel looking after the patient in the post-operative phase need to be present in full PPE. The runner may alert them so they have time to prepare and don PPE. They can enter through the clean zone.

Staff must follow doffing guidelines.

Staff must not re-enter theatre for 20 minutes after the patient has left theatre.

ASSEMBLE ALL STAFF INVOLVED FOR A DEBRIEF.

These cases are likely to be long and emotionally demanding. Staff should be given appropriate time to recover and recharge before their next duties. Urgent further cases may be best performed by a new team if possible

In the event of patient death

Leave airway and heat and moisture exchanging filters (HMEF) in place

Body handlers adopt PPE for AGP, body placed in body bag, exterior and trolley decontaminated before leaving dirty zone.

Suggested viewing/reading:

<https://m.youtube.com/watch?v=tGVra7LB2es>

<https://m.youtube.com/watch?v=pqrCZRquGiw>

Please refer to 'Aerosol generating procedures anaesthesia guide'

Please refer to the Donning & Doffing instructional video