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Auckland DHB Perioperative Services COVID-19 Guideline

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Statement

COVID-19 is a novel virus that appears to be spread by droplets and aerosolisation (e.g. intubation/extubation/use of nebulisers), but not by blood or non-respiratory body fluid transfer.

Scope of document

This document primarily addresses non-elective surgery at Auckland DHB in the patient with suspected/ confirmed COVID-19 infection or at epidemiological risk (referred to as COVID-19 patients in this document) who come from the ward and are cared for in operating rooms.

For additional clinical advice or clarity call the COVID-19 Perioperative Advice Phone 021 199 3241. This phone is carried 24/7. Calls are to be channelled through nursing, technician and anaesthetic coordinators. HR and non-urgent enquiries please use PeriopIMT@adhb.govt.nz.

Principles

Staff safety is paramount: keeping staff healthy protects all our patients and other staff and is prioritised even in extreme emergencies when delays to protect staff may compromise patient outcome. For this reason, do not press the red bell.
Risk: The operating room is a positive pressure environment and any time the room doors are opened there is a small risk of contamination of the external environment. During aerosol generating procedures, in particular intubation and extubation there should be no traffic in or out of the OR during these procedures or for 10 minutes following them (3 air changes). Once the patient's airway is secured the airborne risk is reduced, and surgical masks are appropriate to be worn, however, surfaces should be considered contaminated.
Consistency across Auckland DHB: ORs, ED, ICUs, other procedural areas (endoscopy) and medical areas with an established default process.
Minimise variation: each area and some situations may require variation in process and this should be assessed after simulation and with feedback from staff managing actual cases.
Individual cases may require variation as agreed with senior staff and liaison persons from each area.
Follow established processes where possible
Keep it simple
Conserve equipment including PPE
Be kind and supportive to your colleagues, patients and whanau

Staffing, skill mix and vulnerability

Nursing, anaesthesia and technician coordinators refer to staff lists indicating

- staff self-identifying as especially vulnerable to COVID-19 or concerned about transmission to a vulnerable household member
- staff trained to teach N95 fitting
- staff trainers for donning/doffing PPE for COVID-19
- staff status regarding N95 masks - fits well, does not fit, does not know

Staff lists include HCAs, MRTS, cleaners and others to be involved in patient care.

Staff asked to care for COVID-19 patients may make their concerns known to coordinators at any time and privacy will be respected.

Screening

Patient screening should be completed at admission and be consistent with the latest national recommendations for COVID-19 case definition. It should include determination of clinical history, contact and travel history.

This is a fundamental and critical decision - whether the patient has suspected/ confirmed COVID-19 infection or is at epidemiological risk of COVID-19. If so, the processes in this document apply.

The current Auckland DHB guidelines should be followed in screening (See Hippo for COVID-19 guideline https://adhb.hanz.health.nz/Toolkit/Covid%2019%20Clinical%20Guide.pdf).

Surgical consultation

An experienced surgeon assesses the patient to confirm the surgical procedure required and the preferred time frame. The surgeon must write on the patient what the operation is and complete a verbal consent which should be documented in the patient notes outside the room after doffing.

OR notification

The surgeon notifying OR is experienced and can anticipate special steps or requirements and communicate these to the OR team.

The surgeon phones the OR nursing coordinator and the anaesthetic coordinator to notify them. COVID-19 status is communicated to the anaesthetic coordinator, and also on the usual OR booking form.

The nursing coordinator confirms infection control precautions including COVID-19 screening and status of every patient.

Anaesthetic review

In most cases face-to-face assessment is deferred until the patient is in the OR.
An experienced anaesthetist (Fellow or Specialist) reviews the patient electronically and contacts surgical staff for further information as required.
If face-to-face patient review is considered essential prior to OR reception, an experienced anaesthetist reviews the patient on the ward following current Auckland DHB PPE guidelines for that individual.

Initial planning by OR coordinator team

Collect the COVID-19 box from its agreed location (box contains checklists).
The coordinating anaesthetist, nurse and anaesthetic technician plan together using the checklists and resources in the COVID-19 Box, referring to the intranet for updates.

Timing

- Extra time to select and brief staff, prepare the OR, manage the case and terminally clean the OR
- Last on list if possible
- Choose a target briefing time in OR for the full team

OR choice

A dedicated OR is strongly recommended as this can remain stripped and prepared. Furthermore it can be used for simulation training. If a dedicated OR is not feasible for the service an OR must be prepared at the end of a list so it is ready for out of hours use.

If there is no designated COVID-19 OR (see note below) then the OR should have a preparation/ set up room and sluice room directly connected to OR.

- Donning area recommended to be scrub bay
- Doffing area recommended to be the sluice room
- If these are not available then where possible a large scrub bay is recommended to permit some separation between donning and doffing areas

Staffing

- Extra staff will be required, but the number of staff working inside the OR should be minimised
- Use a COVID-19 Perioperative Staffing Planning Document (see COVID-19 Auxiliary Documents) to ensure a full team is notified. Once staffing is organised the door log should be held by the door/donning buddy.
- Out of hours call back staff will often be required
- Call in first on-call specialist anaesthetist and second on-call specialist if other cases are in progress
- Experienced staff only
- No teaching, no registrars unless required
- The minimum number of staff and equipment should be in OR at any time.

Traffic

Plan carefully to minimise door-opening and traffic. No staff should enter the OR without confirmation from the door buddy.

Communication with outside assistants

Do not open the door to communicate.

The normal landline in OR is the primary communication method. At the team briefing phone numbers of outside runners and door buddy are made available next to the phone.

Real time communication may be achieved by any or all of the following:

- Writing on paper and holding up to door window
- OR phone on speaker and connected to outside runner phone at all times.
- Zoom enabled on nursing computer connected to laptop on trolley in corridor outside OR.

Other Considerations

If x-ray is likely to be required all staff should don lead protective gear prior to donning PPE or surgical attire.

Communicate the plan with the full OR team

Technician, nursing and anaesthesia coordinators

- Use the COVID-19 Perioperative Staffing Planning Document (see COVID-19 Auxiliary Documents) to communicate the plan and briefing time to all team members, including informing the ward
- Confirm with individual team members their vulnerability status.
- Ascertain their knowledge and skills with the Team Briefing Checklist (see COVID-19 Auxiliary Documents) for COVID-19 so support may be arranged.

- Remind staff to review donning/ doffing/mask fit videos and other resources on intranet prior to the case.

OR preparation

The COVID-19 virus is thought to remain infectious on surfaces for hours to days if not cleaned. During anaesthesia and surgery there may be aerosolisation of the virus which will rapidly be removed by air changes. However settling of the virus on any OR surface is possible.

Removal of equipment and room preparation

- Staff are to work from checklists (see COVID-19 Auxiliary Documents) in the COVID-19 box to prepare the OR.
- The nursing, technician and anaesthetist checklists are reviewed by the most experienced staff available and modifications made if required.
- Only equipment and medications definitely required or extremely time-critical if required should be in the room. Other items needed during the case will be brought to OR as needed by the surgical or anaesthetic runner and handed into OR by the door buddy.
- Unnecessary equipment is removed by staff working from checklists.

This will generally include removing the anaesthetic trolley, block trolley and usual airway trolley.

Signs alerting staff to the infection risk are placed on all entry doors of OR. The signs are bold and read "**Closed OR Infection Control Precautions Required"**

Preparation of donning and doffing areas

- The door buddy and doffing buddy use the Buddy Checklist for preparation (see COVID-19 Auxiliary Documents).

Anaesthesia specific preparation

- Use the checklists for preparation; COVID-19 Perioperative Intubation Tray Checklist, COVID-19 Anaesthetic Machine Set-up Checklist and COVID-19 Anaesthesia Medication Checklist (see COVID-19 Auxiliary Documents)
- The anaesthetic machine has a standard breathing filter as per normal practice
- Forced air warming is avoided if possible. If it is considered necessary, explore other warming methods. If forced air warming must be used, do not turn on until after intubation.
- The anaesthetist chooses and prepares medications to remain in the room following "definitely required or time-critical" criteria and using the anaesthesia checklist as a baseline. Consider requirements for recovery of the patient.
- Airway strategy including contingency planning is discussed by the anaesthetic technician and the anaesthetist, with final detailed planning confirmed at sign-in with the nurse present at that time.
- General anaesthesia airway management should be intubation with minimal or no facemask ventilation, to create a closed circuit as soon as possible. Tube cuff inflated before ventilation, circuit disconnects avoided, closed suction equipment if available to minimise aerosolising events.
- A videolaryngoscope is preferred **if** available and **if** the anaesthetist and technician are experienced in its use.
- The intubation principle of "first attempt best attempt" is followed.
- The initial rescue technique in case of difficulty is second generation laryngeal mask rather than facemask ventilation.
- Plan to defer procedures (e.g. arterial lines, additional IV access) until after intubation where clinically appropriate.

OR team briefing in OR

This step is mandatory even under major time pressure.
Use the COVID-19 OR Team Briefing Checklist (see COVID-19 Auxiliary Documents) which includes confirmation of roles, PPE requirements for each person at different stages, experience in PPE and mask use.
If individual team members cannot be present, delegate a specific person to brief them. At minimum a representative of surgical, nursing, anaesthesia and technician groups must be present.
Confirm and check the method of communication with staff outside OR.
Walk the team through the donning and doffing areas.
Confirm the sequence of patient reception in OR, removal of bed, intubation, positioning and patient preparation, surgical scrubbing and gowning, doffing and disposal, transfer and extubation, recovery in OR, return to ward.
The anaesthetist, anaesthetic technician and OR nurse should read through the Intubation and Extubation plans together, after the full team briefing, in the OR, while the patient is being retrieved from their ward.

Ward patient transfer direct to OR

Do not stop in pre op area or PACU

Three people are needed for patient transfer from the ward; at least one HCA and the ward nurse, with the third person bringing patient notes in a plastic bag and opening doors for the others (assume that the notes are contaminated). The staff going to the ward from OR should take their own PPE (gown, gloves, surgical mask / N95 and eye protection) and plastic bag for the patient noes with them to go to the ward.

The third person does not wear PPE for transfer and should remain 2 metres distant from the patient and bed during transfer. Use theatre lifts if elevator transport is required: the third person should wear a surgical mask if in the same lift.

The patient dons a surgical mask, preferably unassisted. The surgical mask is worn over an oxygen delivery device (nasal prongs, hudson mask) if required. If the patient is unable to wear a mask then transfer staff should wear N95 masks instead of surgical masks. Dentures should be removed by the patient and put in a labelled denture pot. These should stay on the ward.

The Pre Op checklist is completed by the ward nurse in the patient's room. This document stays on the patient's bed and is transported with the patient into the OR (this document is considered contaminated and will be appropriately discarded at the end of the case; any relevant information is noted on PIMS).

The ward nurse and HCA and any other staff in contact with the patient or bed don PPE for transfer; gown, gloves, eye protection, disposable hat and surgical mask.

Caregivers and support people are not recommended and should be considered on a case-by-case basis. However one caregiver or support person may accompany the patient to OR. They should wear a cover gown, disposable hat and surgical mask. Whether they wear scrubs is service dependent. Caregivers and support people should not remain in the OR for intubation as per usual practice.

Receiving the patient in the OR

Only essential staff are in the OR and these staff all wear PPE.

The patient's clinical notes are kept outside the OR room. Hand hygiene is performed before and after contact with the notes.

The ward nurse hands over the Pre Op Checklist to the OR nurse in the OR, and is directed to doff in the agreed doffing area. The ward nurse returns to the ward.

Assessment and anaesthetic consent

The patient is transferred to the OR table.

The HCA carefully strips the patient bed in the OR then pushes the bed out to another staff member (wearing PPE; gown gloves and surgical mask) who cleans the bed immediately with Clinell then puts it in the bed bay.
The HCA leaves, doffing PPE in the agreed doffing area, supervised by the door buddy.

The anaesthetist completes patient assessment and obtains verbal consent.
Sign in is completed with the OR nurse and technician communicating with outside runners at the main door window showing documents.

Induction and intubation

The minimum number of staff are present and they are wearing N95 masks. This will usually mean an anaesthetist, technician and OR nurse assisting. There should be no movement of staff or equipment in or out of the OR until 10 minutes have passed since the airway was secured.

Anaesthetist and technician both don a second pair of gloves (recommendation is for surgical gloves as first pair, non-sterile for second pair) for airway manoeuvres including intubation, extubation and (closed) suctioning. These second gloves are removed and discarded carefully as soon as possible after the manoeuvre to reduce surface contamination.

The expectation is intubation with no or minimal face mask ventilation.
For further details on airway management, review the notes above on anaesthetic-specific preparation and the COVID-19 intubation/extubation auxiliary documents.

Additional OR staff should delay entry for 10 minutes after intubation (3 airflow changes).

The patient having regional anaesthesia, local anaesthesia or sedation

The patient wears a surgical mask throughout, over the oxygen delivery device if required. OR staff to wear a surgical mask in addition to hat, gown, eye protection, gloves. If the patient is unable to wear a surgical mask or is at risk of vomiting such as C-section or conversion to GA then N95 should be worn by all staff in the OR at all times.

Positioning

If possible the surgeon and staff already in the room are responsible for patient positioning. The surgeon and any additional OR staff should delay entry for 10 minutes after intubation (3 airflow changes) and should wear a surgical mask in addition to gown, gloves and eye protection.
The surgeon will doff following positioning (as per doffing instructions).

Donning surgical attire

The surgical team should don a surgical mask and eye protection prior to performing surgical scrub.
The donning of sterile surgical attire should take place in a dry, clean area, outside the operating room, such as the preparation room.

Breach in PPE

The door/donning buddy is responsible for decision making on breaches that they notice or is notified to them.
Not all breaches mandate doffing and re-donning.

Specimens and labs

Specimen management process is as per agreed plan from briefing.

Ensure that the specimen is labelled inside the OR and the request form is completed outside OR. and the form should identify the patient as a suspected/confirmed COVID-19 case T The specimen container should be considered contaminated.

End of surgery

Conduct a short debrief at the end of Sign out to identify what worked and what didn't work. Communicate any significant concerns to the Floor Coordinator or OR Manager to be fed back to the committee.

The case cart is moved into the OR by a person wearing a surgical mask who does not enter the room. The instruments are put into the case cart as per standard process. The case cart is sealed and removed from the room. Case cart is wiped with Clinell prior to transfer to CSSD for normal processing.

The patient ward bed is moved into the OR by a person wearing a surgical mask who does not enter the room. The surgical team assist with transfer of the intubated patient to the bed, without the help of the HCA if possible as agreed at the team briefing.

The surgical team and other staff deemed non-essential should doff and leave prior to extubation. Consider scrubs contaminated and change as soon as possible.

Extubation

Strong consideration should be given to keeping the patient intubated if there is any concern that the patient may fail extubation.

As for intubation, minimum staff should be present for extubation and wearing N95 masks. This is usually the anaesthetist, technician and assisting OR nurse. Outside runners must be available outside the OR and should be in contact via phone.

Extubation should occur under the clear plastic sheet and facemask applied immediately. Avoid positive pressure facemask ventilation after extubation.

When the patient is ready for hudson mask or nasal prongs, a surgical mask can be placed over the oxygen delivery device and the plastic sheet removed. Care must be taken when removing the sheet as there is a high risk of transfer and aerosolisation at this time. The sheet should be bundled to ensure the patient facing surfaces are kept inside (see further information on intubation / extubation in the auxiliary documents).

Avoid movement in or out of the OR for 10 minutes after extubation / removal of the plastic sheet. In an emergency extra equipment may be passed by the route as agreed during the team briefing.

Recovery

As soon as possible after extubation, the patient is fitted with a surgical mask over any oxygen device being utilised.

The anaesthetist should recover the patient for the first 10 minutes (3 airflow changes) supported by the COVID-19 Recovery checklist (see COVID-19 Auxiliary Documents). After this time it will be a clinical and service dependent decision whether a PACU nurse takes over care in the OR.

The PACU nurse wears full PPE: gown, gloves, hat, eye protection and a surgical mask. If the patient is unable to wear a surgical mask, an N95 mask should be worn.

Safersleep chart is continued for recording recovery. When the patient leaves the OR the Safersleep chart and PIMS record is printed and put into the patient notes.

Handover and transfer to ward

The ward nurse and HCA and any other staff in contact with the patient or bed don PPE for transfer; gown, gloves, eye protection, disposable hat and surgical mask.

The ward nurse receives handover of the patient in the OR.

As per transfer to OR, the ward nurse, HCA and third person return the patient to the ward, advising the nursing coordinator that they are leaving the OR and to stand down the OR for 20 minutes before cleaning.

Remaining staff leave the OR and doff as per guideline. Consider scrubs contaminated and change as soon as possible.

Cleaning

Following the 10 minute stand-down, the perioperative team don gown and gloves and clean touch points and electrical equipment using Clinell wipes.
The cleaner performs a terminal clean, wearing gloves and gown.

Management of risk exposures

Refer to the COVID-19 clinical guideline on the COVID-19 Hippo https://adhb.hanz.health.nz/Pages/Coronavirus.aspx
https://adhb.hanz.health.nz/Toolkit/Covid%2019%20Clinical%20Guide.pdf

Associated Auckland DHB documents

COVID-19 intranet Clinical guideline
Environmental Cleaning in the Operating Room Suite
Patient isolation - Infection control

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Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

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