This is a working document. Management of COVID-19 theatre cases/theatre pressures may result in updates to this plan.

**PPE for all staff in theatre according to the current version of the Western Health COVID-19 PPE guidelines**

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WH Operating Theatre workflow document for suspected & confirmed COVID-19 cases

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CASE BOOKING:

- Case booked on Simon with note “COVID-19” and booker to call nurse in charge and anaesthetist in charge to determine appropriate timing of case
- **Suspected** COVID-19: Consider delaying non time critical surgery until COVID-19 test result is known (confirmed or clear) to preserve PPE and maintain normal workflow for non-COVID cases
- **Confirmed** COVID-19: Where clinically appropriate, non-urgent surgery should be delayed until patient is non-infective

Risk Assessment:

2. Then refer to theatre flow chart “Elective (or emergency) Surgery during COVID-19 Pandemic” for guidance on deferring vs proceeding with case, and appropriate theatre set up and PPE

**LOW RISK SUSPECTED COVID-19**

Key points:

- Patient to wear surgical mask during transfer to and from theatre
- Use of PPE in theatre as per current version of WH COVID-19 guideline
- For low risk suspected COVID-19: use surgical mask, eye protection/face shield, gown, gloves (use N95 mask when high risk AGP performed)
- Theatre and anaesthetic equipment and paperwork can be kept in theatre, with hand hygiene to be performed before and after contact with these
- Anaesthetic room runner (anteroom) NOT required
- Patient can be recovered in PACU in an isolated bay as per other infection control cases (e.g. VRE or MRSA)

**HIGH RISK SUSPECTED (or CONFIRMED) COVID-19**

- Follow operating theatre work flow as outline below:
PREPARATION:

Patient Arrival

- Do not send for patient until theatre ready
- Patient to be transferred directly into theatre – do not stop at Holding Bay
- Patient to wear surgical mask during transfer
- Handover to occur in theatre – usual pre-op checks
- Do not enter anaesthetic room
- Patient bed to be left outside theatre door with COVID alert sign, unless returned to ward as is practise with Birthing Suite

Support Persons

- Obstetric – support person to remain in birthing suite when patient is transferred to theatre. Theatre to send for support person when ready to commence procedure.
- Paediatric – parent may attend – please treat as COVID positive – appropriate PPE

Theatre

- COVID resource kit: COVID Alert signs/Clean room placed on theatre doors
- All non-essential equipment removed from theatre. Cover any remaining equipment with clear plastic (non-sterile), e.g. wall mounted computers. Note: Do not cover anaesthetic machine.
- Airway equipment prepared and checked (as per WH intubation guideline)
- Prepare all anaesthetic drugs anticipated for case
- Ensure emergency anaesthetic drug box is present in theatre
- DDs from theatre drug cupboard dispensed before patient arrives (to avoid contamination of cupboard). Further drugs if required to be sourced from PACU
- Remove all single use glove boxes. Keep a selection of sizes in room for team. This prevents whole boxes from being thrown out at case completion
- Sharps to be disposed of as per normal practise (WH Policy) in Endoscopy Room (Footscray) CSSD (Sunshine) Clean Up Room (JKH) including anaesthetic sharps
- Notify CSSD in advance re COVID-19 case

Equipment

- Any larger specialised equipment/consoles that might be needed must be brought into the room before the patient to avoid unnecessary double door opening e.g. X-ray, ultrasound
- This will involve meticulous planning during the huddle

Linen/Rubbish

- X 2 large biohazard bags (Rubbish)
- Linen – to be placed in skips lined with soluble (Dissoavo) bags as per Spotless
- Replace bags when ¾ full
- Nil recycling – remove recycling receptacles from theatre
- Place x 1 biohazard bag, x 1 linen skip & x1 Skinman at main exit doors
- Skinman, Clinell and biohazard waste to be available outside theatre for doffing

**Anaesthetic Room/Clean Room**
- The anaesthetic room is a designated clean room
- Where possible, all entry into theatre during a case is via the anaesthetic room
- PPE and Donning visual aids available
- Equipment: Anaesthetic drug trolley, monitoring slave to anaesthetic room, WOW/laptop with access to EMR
- Phone communication between theatre and anaesthetic room confirmed
- Staff in anaesthetic room to don N95 mask & eye protection due to risk of door opening during intubation/extubation or during surgical AGP
- Surgeons, anaesthetists and further scrub nurses if required shall don in the anaesthetic room before entering theatre
- Staff to exit via the main theatre doors

**Outside Runners**
- Dedicated outside runners are required
- One for nursing (anaesthetic and scrub/scout) and technician team – runner should be familiar with all areas
- Outside runner to ensure all signage in place, collect phone and Scancare scanner, have a WOW/laptop to assist with intraoperative documentation
- Note – Runner number dependent on staffing availability. May wish to use anaesthetic and S/S runners

**Team Huddle**
- Mandatory TEAM huddle before receiving patient – all team members present (include radiographer as required) – no exceptions. A team approach is vital
- Critical point of discussion for equipment and supplies, including emergency contingency. Carefully decide what is needed in the room – at the end of the case, ALL unused consumables must be binned – no exceptions. Any equipment/consoles need rigorous cleaning
- Team Leader nominated for communication with outside runner – usually scout nurse
- All staff to remain in theatre for the case (breaks may be taken during extended cases. Theatre technicians may leave out of hours for urgent requirements, e.g. blood gases). Breaks to be taken at end of case
- Surgeons must remain in the theatre after the case until the patient has been transferred back to ward bed, then remove PPE and leave room to complete documentation
- **Emergency Buzzer Activation** – All staff to enter via anaesthetic (clean) room with PPE donned. Runner to monitor for PPE and to direct which staff & equipment to enter
- Avoid theatre staff changes during case (unless essential)

**Mandatory PPE**

- As per current version of [Western Health COVID-19 PPE Guidelines](#)
- **Disposable hat**
- Overshoes are not recommended due to risk of contamination during doffing. The recommendation is that work shoes should be impermeable to liquids, and be able to be wiped clean. Shoes should be wiped over with Clinell in designated ‘dirty zone’ outside theatre
- No jewellery, including necklaces/wedding rings. Small (stud like) earrings only (as per current WH policy)
- Bare below the elbows
- No hair exposed

**Miscellaneous**

- Remove unnecessary items from pocket and leave outside or in locker
- Doctors – leave phones and pages with outside colleagues or nurse
- Clinical photography – will not be available for COVID cases
- Use existing DECT/CISCO phone – wipe with Clinell at end of case

**Donning & Doffing**

- Theatre team must spot/buddy each other – as per WH educational videos/posters

**Theatre Doors**

- No theatre doors to be opened unnecessarily. Signage on all theatre entry doors. NO TRAFFIC FLOW VIA MAIN DOORS. Disengage automatic self-opening doors (JK Theatres)

**Set-up/Documentation**

- Set up and first count in theatre while waiting for patient arrival – time permitting
- Limited paperwork to be in theatre
  - Consent, Passport to Surgery, Count Sheet & Bradmas
  - Anaesthetic paperwork including IV fluid/blood product

*Note: paperwork is regarded as low transmission*
Avoid holding count sheet where possible to minimise contamination. Keep count sheet on clean trolley close by when counting

Normal operating principles apply, including Time Out/Sign Out and counting

**Intubation & Extubation**

- PPE for high risk AGP as per WH PPE Guideline
- Airway management as per intubation guidelines
- Double gloving recommended for airway management and neuraxial techniques
- 2nd anaesthetist to stay in theatre until airway secured and patient clinically stable
- Minimize staff in theatre during intubation and extubation-essential only (includes theatre technicians)
- Re-entry of non-essential staff entering the operating suite as per WH ‘When to Enter the operating theatre after a high risk Aerosol Generating Procedure (AGP) (appendix 1).

**Specimens**

- Label inside theatre/PR and contain as usual in Biohazard bag. The outside runner will hold another biohazard bag open for specimen to be placed in. Nurses to confirm patient details match.
- Specimen handling – double bag, store and record as per current practice.

**End of Case**

- **Drape/linen disposal** – Care when removing patient drapes at end of procedure. Carefully roll drape on itself and discard into linen skip/biohazard waste. Linen bags must be replaced when ¾ full
- **Fluids/solutions** – Use suction to remove all remaining fluid from scrub trolley
- **Re-usable Equipment Process as per current practice** – i.e. Remove rubbish, linen, fluids & sharps from instrument trolley. Gross contamination is to be removed from instruments and instruments placed neatly/open in the instrument tray. Cover instruments with existing trolley wrap. Anaesthetic tubing/masks etc. must be double bagged and placed on trolley lined with clean wrap and covered. Equipment delivered directly to CSSD by instrument nurse or outside runner with communication of COVID status to CSSD staff.
- **Patient bed** – bought in to theatre prior to extubation
- **EXTUBATION** – Once patient positioned on bed, staff not required for extubation to leave room (minimise staff numbers to essential only during AGP). Any staff who remain in theatre and not directly involved in extubation to position as far away from patient as possible.
- Minimise door opening following extubation (up to 15 min for confirmed COVID)
- **DOFFING** Spotter/buddy to be present during doffing
- Gown and gloves to be removed in theatre, followed by Hand Hygiene
- Eye protection, masks, disposable hat to be removed outside theatre, shoes to be wiped with Clinell, followed by Hand Hygiene
RECOVERY

CONFIRMED AND HIGH RISK SUSPECTED COVID-19 PATIENTS:

- Patient to be recovered in theatre
- Anaesthetist to remain in theatre until patient awake and adequately protecting airway
- Scrub or scout nurse to remain as second person in theatre/PR
- Technician to remain in theatre

LOW RISK SUSPECTED COVID-19 PATIENTS

- Patient to be recovered in the post anaesthetic care unit with usual contact precautions and 1 bay separation between the next patient.
- Curtains need to be drawn to separate COVID-19 suspected patient.
- Staff looking after patient contact precaution gown, eye protection or face shield, surgical mask (N95 mask if patient has had general anaesthesia, sedation or has altered level of consciousness.

- Follow normal discharge criteria. Notify ward of expected discharge time
- Runner to remain in clean area while patient is in theatre

Patient Transfer to Ward

- Ward nurse to receive handover and collect patient from theatre
- Confirm patient wearing surgical mask for transfer

Cleaning of Theatre

- Do not commence clean until patient has left theatre
- Keep theatre doors closed until cleaning completed
- Staff to don clean PPE and return inside to complete terminal clean
- Use microfiber cloth with Actichlor solution (as per current cleaning practice) or Clinell wipes
- Floor to be mopped with Actichlor solution
- Team approach, working from one section of the room
- Avoid creating unnecessary airflow with cleaning.
- Remember key points for high contamination – door handles, switches, anaesthetic equipment
• Remove plastic from equipment and wipe over
• Discard all cleaning cloths to Linen skip/Biohazard bag
• Remove all PPE into bag and last person to pass to outside person as above. Hand rub to above wrists then exit
• Perform soap and water hand wash immediately as above
• Staff to spot check/buddy each other as PPE removed
Supplemental Resources

- Theatre workflow maps: Footscray, Sunshine, Joan Kirner
- Western Health COVID-19 Deisolation Guideline
- Western Health COVID-19 PPE guideline v4 23.04.20
- Western Health COVID-19 intubation guideline
- Additional points specific to Caesarean section
- Surgery in paediatric patients with COVID-19 precautions

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<tr>
<td>Author</td>
<td>Menadue B. Hay L, Ozcan J, Marane C, Lim M, Sheridan N</td>
</tr>
<tr>
<td>Departments</td>
<td>Anaesthesia, Pain &amp; Perioperative Medicine</td>
</tr>
<tr>
<td></td>
<td>Operating Theatres</td>
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<tr>
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Appendix 1

When to enter the operating theatre after a high risk Aerosol Generating Procedure (AGP).

Key Points

- This guidance operates in conjunction with the WH PPE guidelines.
- Only the minimum number of required staff should be in the OT during a high risk AGP - the urgency of the surgery and the patient COVID risk will determine who is required.
- Minimizing staff exposure to AGPs and limiting OT entry/exit protects individuals and the surrounding environment from contamination.
- Minimizing staff exposure to AGPs supports appropriate use and conservation of PPE.
- The key difference in PPE for airborne vs. droplet precautions in the OT is the use of N95 masks.

| Recommendation on delay for non-essential staff entering the operating theatre and PPE. |
|---------------------------------------------------------------|-----------------|
| Time critical emergency (All staff required in OT at time of AGP) | Non-time critical (Minimum delay following AGP) | Post procedure cleaning timeframe |
| **COVID Confirmed** | | |
| All essential staff in OT | All staff: Airborne PPE | 15 minutes |
| | | All staff: Airborne PPE |
| **COVID Suspected High Risk** | | |
| All essential staff in OT | 15 minutes | |
| All staff: Airborne PPE | Anaesthetist and assistant: Airborne PPE | |
| **COVID Suspected Low Risk** | | |
| All essential staff in OT | 15 minutes | |
| All staff: Airborne PPE | | |
| **Not suspected or COVID Negative** | | |
| All essential staff in OT | No delay required. | Routine cleaning processes. |
| All Staff: Droplet PPE | All staff: Droplet PPE. | No minimum delay |
A complete list of procedures considered by WH to have a high risk of aerosol generation is found in the WH PPE guidelines.

ii - The guiding principles are that the risk of healthcare worker transmission of SARS-CoV-2 from droplets and aerosols produced during and AGP is reduced: 1) with increasing HCW distance from the AGP, 2) with increasing time after the AGP is performed, and 3) by the use of appropriate PPE and standard hygiene precautions

- Removal of true aerosols from the environment depends on airflow dynamics, the number of air changes per hour and filtration (e.g. HEPA).
- Minimum standards for operating theatres is 20 ACH with HEPA filtration. A delay of 15 minutes allows for approximately 99% removal of aerosols.
- Positive or negative pressure settings DO NOT change these recommendations.