Covid 19: Is IR primed and ready?
The SKH Experience

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SKH IR nurses and Radiographers
Sengkang General Hospital

- 591 acute beds (78% BOR)
  - Large catchment population
  - Active and busy A and E
  - 20 isolation beds

- INTERVENTIONAL RADIOLOGY
  - Small team
  - 2 IR rooms
  - PACU recovery
  - IR clinic in the Medical Centre
  - Manpower:
    - 8 nurses
    - 3 radiographers who also man the hybrid OT
    - 2 radiologists
    - Unable to split team
    - Physical segregation not possible

- TEMPORAL SEGREGATION

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<th>Mon</th>
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- Oncall:
  - Stand by team: 2 nurses 1 radiographer
  - Radiologist: alternate week on call
DORSCON ORANGE (6th Feb 2020)

- 7th Feb : hospital operations meeting
- IR identified locations for procedure:
  - At patient’s bedside
  - Isolation OT (negative pressure)
  - IR (designated room)
- Stimulation case with ID physician, facility manager and engineers, house keeping (9th Feb)
  - Walk the patient pathway
  - Identify clean and infected zones to allow for demarcation
  - Close access to certain areas and reroute flow of normal traffic
  - Seek ID help for necessary protection of equipment and cleaning
  - House keeping (roles and responsibility)
  - Engineers: measure in room air pressures and dissipation of air to identify the clean corridors
  - Helps staff moral as feel assured of protection and safety
- RTLS (Real time locating system)
• 53 yr old malay gentleman
• Brought by paramedics on O2
  SpO2 97%
• Fever (39C) x 3/7
• Cough with whitish phlegm, runny nose and sore throat a/w
  SOB (RR22) x2/7
• Lungs clear
• Tachycardic: 130b/min
• Nil travel history
• Nil contact h/o with confirmed
  /suspect case of COVID or >10
  chineses travelers /d
• COVID 19 swab done
• Patient isolated
• c/o abdominal pain
• CT done
• Septic looking
- Blue letter referral to IR
- Indicated suspect COVID 19
- Urgent PCN as septic
- Cannot wait for swab result
- SRF raised
- Bloods done
- Consent taken by team

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<thead>
<tr>
<th>Lactate, plasma</th>
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<tr>
<td>CKD-EPI eGFR</td>
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<td>Procalcitonin, serum</td>
<td>*↑ &gt;400.00</td>
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<td>Glucose, blood (i-STAT)</td>
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| Ketones, blood |     |
| C-Reactive Protein, serum | 479.4 |
| NT-proBNP, serum |     |

| INR | 1.22 |
| APTT | *↑ 46.4 |
| Prothrombin Time | *↑ 12.7 |

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<td>Chemistry</td>
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| Blood Gases |     |
| pH, blood | *↑ 7.470 |
| pCO2, blood | *↓ 21.9 |
| pO2, blood | *↓ 52.9 |
| Base Excess, blood | *↓ -5.7 |
| Oxygen Saturation, blood | *↓ 89.4 |
| Standard Bicarbonate, blood | *↓ 19.6 |

| Haemoglobin | 12.4 |
| WBC Count | 12.53 |
| Platelet Count | 115 |
| RBC Count | 4.53 |
| MCV | 79.2 |
| MCH | 27.4 |
| MCHC | 34.5 |
| RBC Distribution Width | 13.9 |
| Mean Platelet Volume | 10.6 |
| Neutrophil | ↑ 89.0 |
| Lymphocyte | ↓ 6.0 |
| Monocyte | 3.0 |
| Eosinophil | 0.0 |
| Basophil | 0.0 |
| Metamyelocyte | ↑ 2.0 |
| Myelocytes |     |
| Haematocrit | ↓ 35.9 |
| Neut Absolute | ↑ 11.15 |
| Lymph Absolute | ↓ 0.75 |
| Mono Absolute | 0.38 |
| EOS Absolute | ↓ 0.00 |
| BAS Absolute | 0.00 |
Handling Covid 19 Case in IR

IR coordinator Nurse to receive SRF in OTMS and list case in IR 1 only. (room identified for case)

To give ward nurses the first call to prepare patient (ie. Blood inx, blood transfusion, change to OT gown, put up checklist).

Ward doctor to obtain consent from patient at ward level.

IR Team to prepare IR suite

- Radiographers to push out any machines/equipment not needed in the suite to the control room or to IR 2 if not in use.
- Runner and Circulating nurse to set up PAPR station.
- Scrub nurse to prepare sterile trolley and obtain the necessary item needed for procedure.
Handling Covid 19 Case in IR

IR coordinator to confirm room and IR team is ready to receive patient.

Scrub Nurse, Circulating Nurse, Radiographer 1, Performing Radiologist should be in IR suite with PAPR and PPE ready.

2nd call is made to the ward to inform that IR is ready to receive patient and porter dispatch to the ward.
Handling Covid 19 Case in IR

IR Coordinator informed ward that ward nurse and porter to send patient directly to IR 1 – to follow signages on the left wall of SO2 strictly.

1. Tap Staff Pass to enter Surgery on 2 Main door

(Door is automated)

2. Multiple Signage on the left wall along the corridors indicating “IR This Way”
Door is kept open

Ward Staff to handover patient to IR staff
Circulating Nurse and Scrub Nurse to Receive patient from the patient’s entrance of IR 1. Radiologist to check for consent. Radiographer, circulating nurse, scrub nurse and radiologist to help in transferring and positioning of patient from bed to to procedure table. Patient bed is to remain in procedure room. Hemodynamic monitoring attached to patient. Radiologist does pre-procedure scan. Scrub nurse and procedurist scrub and clean and drape.
Handling Covid 19 Case in IR

Sign in and Time Out done in IR suite. Radiographer on standby will be at control room with patient details put up on screen in IR monitor.
Handling Covid 19 Case in IR

Runner (Nurse 3):
- charts vital signs and intra op documentation in control room
- assist in obtaining additional items needed for procedure
- calls ward nurse to come collect patient once procedure is done
Handling Covid 19 Case in IR

Procedure is done as per normal
Specimens collected and double bagged in biohazard plastic bags and sent back to ward for dispatch via pneumatic tube
Patient recovered in IR room
Handed back to ward nurse
House keeping activated
Machines wiped down with Virosol by radiographer
Plastic sheeting removed and rolled down

IR Staff to handover patient to ward staff
Handling Covid 19 Case in IR

Radiologist, Scrub Nurse, circulating nurse, Radiographer to de gown in IR 1. Discard only in Biohazard bag.
- Remove sterile glove
- Hand rub
- Remove Sterile gown
- Handrub
- Remove PPE

Radiologist, Scrub Nurse, Circulating Nurse, Radiographer to exit via patient entrance ONLY and proceed to station 6 to remove PAPR and lead gown which need to be wipes down with Virosol
Handling Covid 19 Case in IR

Radiologist, Scrub Nurse, Circulating Nurse, Radiographer to proceed to changing room straight to shower.

Change out to new scrub suit

Radiographer 2 in control room takes care of images.

Radiologist may return reporting room to settle reporting of procedure or report from other location in department

Housekeeping to clean room as per hospital guidelines

Air room for 1.5 hours before next use
WISDOM GAINED

Manpower intense procedure – make adequate arrangements
On call – need a second stand by team
Take your time DON’T RUSH
Buddy up – always look out for each other
Team work
Communicate communicate communicate
Strict adherence to infection control protocol
DOFFING more important than gowns up
THANK YOU