The Intensive Care Unit JMO Guide

Written by Dr Yun Megan Foo, RMO Term 2 2021 with reference to the POW ICU Orientation Handbook
Kindly reviewed by registrars Dr Mominah Bhatti and Dr Jo Gutjahr-Holland, and acting CNE Melinda Paraggio.

I had a wonderful time on my ICU rotation and I know you will too. Best of luck! Please feel free to email me YunMegan.Foo@health.nsw.org.au if you have any comments or suggestions for the improvement of this document.

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Useful Numbers

ICU	24701 / 24728
HDU	20281 / 20282 / 20283
CTICU	20471 / 20472 / 20473
Pharmacy	#44121
ICU Reg Pager	44181
HDU Reg Pager	44648
ICU Fax number	24748
CTICU Fax number	23557
ICU Printer	POWICUX150
HDU Printer	POWICUX201
CTICU Printer	POWICUX203

Radiology

X-Ray department	20330
CT Radiographer	20340
Mobile X-Ray	#44164
Radiology Reg	#44454 / 20333
MRI	22309
Nuclear Med	22200
Ultrasound	20353
Vascular Lab	22113
ECHO	20740

Pathology

SEALS Pathology	29092
Microbiology	29081
Haematology	29056
Biochem	29072
Blood Bank	29145

Specialities

Anaesthetics Reg	#44346
Cardiology AT	#44206
ED Bridge	28400
Surg Reg	#44619
Ortho Reg	0457875284
INR Resident	#45116
Theatres	20500

After Hours

DKS Reg	#44167
PKS Reg + Night	#44168
JETS	#47356
01	#44601
02 + Night JMO	#44169
03 + Night RMO	#44603
04	#44604
05	#44605
APN	#45387

Structure of the Day

Day Shift 0800-2000

0800	Handover meeting - The night ICU resident is expected to present handover on ICU patients - The night HDU registrar will present on HDU patients and out of ward reviews - The CTICU JMO or registrar will handover to the day team (less formal than the ICU/HDU handover, conducted in a walkaround style) Teaching/M&M/Journal Club - On weekdays, handover is followed by additional teaching/meetings – the schedule is sent out by Kym at the beginning of the registrar term - The day ICU resident is expected to teach on Tuesdays - Night staff are welcome to attend teaching but it is not expected
Day	Rounds - The ICU round will be performed with a consultant + fellow + reg + resident - The HDU round is performed with consultant + reg + resident - The CTICU round is performed with a consultant + fellow + reg + resident - On weekends, there is only one consultant and fellow covering ICU+HDU. CTICU remains the same. - There is usually an evening walkaround with the consultant JMO Jobs - Order all morning investigations including CXR - Update the handover/issues list including antibiotics - Check on FASTHUGS for all patients including cultures
1930	Handover round - Night team arrives and handover is performed in a walkaround style - May be day JMO or Registrar led

Night Shift 1930-0830

1930	Handover round
Night	Rounds - The ICU round is registrar + resident - The HDU round is registrar only (ICU resident may be asked to help) - The CTICU Round is registrar + resident - On weeknights, there is a fellow physically present who covers ICU+HDU+CTICU. On weekends, the day ICU and CTICU fellows are on call overnight for ICU/HDU and CTICU respectively. ICU JMO Jobs - Help HDU registrar with jobs as needed (in addition to doing ICU jobs) - Order morning investigations for overnight admissions - Do the morning bloods for patients without central / arterial lines - Check the morning blood results and escalate as appropriate - Update the handover/issues list – this will help the day team with discharges - Present handover at morning meeting CTICU JMO Jobs - Do the morning bloods for patients without central / arterial lines - Document morning bloods on hardcopy for the private patients - Create admission kit for upcoming private hearts - Order morning investigations for overnight admissions - Check the morning blood results and escalate as appropriate - Update the handover/issues list – this will help the day team with discharges
0800	Handover meeting

Meetings

ICU/HDU

Mon	Tue	Wed	Thu	Fri
0830 Teaching by ICU consultant (only in the first few weeks of term)	0830 Teaching by Day ICU resident 1230 ICU Grand Rounds (on second Tuesday of every month, Grand Rounds is replaced by monthly M&M) 1400 AMS Round	0830 Teaching by Day ICU Registrar	0830 Weekly M&M by Day ICU Fellow 1400 AMS Round 1600 Physiology viva. Usually confirmed weekly for ICU/Anaesthetics primary candidates, check with registrars if it is going ahead	0830 Journal Club by Day ICU Fellow

CTICU

Mon	Tue	Wed	Thu	Fri
0730 Cardiothoracic M&M (Day team attendance is not compulsory, but most people attend)	0830 Teaching by Day ICU resident 1230 ICU Grand Rounds	0830 Teaching by Day ICU Registrar	0830 Weekly M&M by Day ICU Fellow	0830 Journal Club by Day ICU Fellow

Tips and Tricks

How to do an ICU Admission

- In your presenting complaint, include the operation report and anaesthetic data if applicable
- Important to include allergies and update them each time you open the admission note
- ANZICS Data – very important to fill this in to the best of your ability
- When any patient arrives in the unit, a full set of baseline bloods (ABG FBC EUC CMP LFT Coags), CXR, ECG and MRSA Swabs (nose and groin) should be performed

How to do a CTICU Admission

- Refer to the CTICU Admission guide in the ICU OneDrive

How to Discharge on eRIC

- The issues list will be autopopulated from the ward round notes on eRIC – check that these are updated before signing off
- Tick "finalise discharge summary" on the last tab when you are ready
- Transfer the medications onto Powerchart and check the medications with one of the nurses, pharmacists or registrar
- Ensure you alert the after hours team if the patient is discharged out of hours (very important)
- You may need to discuss with your registrar regarding altered calling criteria on the ward
- Please note that all patients need a discharge summary on leaving the ICU, including patients who have passed away within the unit

How to Admit and Discharge a POWP Patient

- The Powerchart equivalent in POWP is "CriticART"
- All patients who come into POWP need to be admitted on paper, as well as on the CriticART system
- Background: include the past medical history, medications and allergies
- Presentation and Operative Details: include relevant investigations e.g. TTE, angiogram as wekk
- Progress / Post Operative Complications: admission exam
- Management Plan: admission plan
- It is important to keep the handover document issues list updated, so that it can be easily copied into CriticART for discharges

How to Document in ICU

There are a few different ways to document the ward round – check with your registrar if they have a preference.

Systems

CNS: neurological exam and investigations
CVS: cardiac exam and investigations
RESP: respiratory exam and investigations
GIT: gastrointestinal exam and investigations
RENAL: urine output, fluid status, renal investigations
HAEM: FBC, coagulation
METABOLIC: Electrolytes
SEPSIS/MICRO: infection, antibiotics and cultures
EXPOSURE: lines

ABC

A: airway
B: respiratory exam and investigations
C: cardiac exam and investigations
D: neurological exam and investigations
E: temperature, pain, electrolytes
F: urine output, fluid status, renal investigations
G: gastrointestinal exam and investigations

H: haematology
I: infection, antibiotics and cultures

Additional notes must be made for: significant changes in physical condition and/or management plan, invasive procedures (e.g. tracheostomy), PAC/CVC insertion, results of specific investigations or tests (e.g. CT Scans, endocrine tests), changes in the focus of care (e.g. non-escalation of treatment, Advance Directives and family discussions). If there is an evening walk-around with new information or jobs, document a brief evening walk-around note. This is often a few lines typed in to eRIC's 'ICU Progress Note', rather than a full ward round note.

How to Document Lines

- All lines should be documented in eRIC
- These should also be charted in eRIC ("Lines / Drains / Tubes" under "Medical") so that the duration that they stay in is logged

How to Access ECHO

- Find the "ECHO" program on certain computers (at least one in each unit has access)
- You will need to log in twice – once for the remote connection, and once for the ECHO system
- Username: 3north, Password: pow2031

How to access bloods for POWP Patients

- Find the Omni system on the desktop (the logo is a blue puzzle)
- Username and Password are "powpicunit"
- Search using the patient MRN
- Blood results should be written on the hardcover sheets

How to access CXR for POWP Patients

- Log in to the guest account on the CXR computer (you may need to switch accounts). The username is powguest and the password is powpass
- Log in to 'Visage', this is a green icon on the desktop. The username and password are both 'ward1'.
- Search for patients using their UR or date of birth.

What do I need to check? (FASTHUGS)

You should go through FASTHUGS for all your patient and ensure that they are appropriately covered.

- Feeding – do they need NG Feeds / TPN / Vitamins incl Thiamine?
- Analgesia & Antibiotics
- Sedation
- Thromboprophylaxis – usually Heparin 5000u BD, or 7500u BD if >85kg
- Head of Bed 30deg
- Ulcer Prophylaxis – Pantoprazole 40mg IV/PO daily. This can be ceased if they are receiving adequate enteral nutrition.
- Glycaemic Control – Do they need an actrapid infusion (BSLs usually aim 6-10)
- Stools

Usual Bloods

- FBC EUC CMP
- ABG / VBG (the nurses can usually order these)
- +/- Procalcitonin to check inflammatory markers if indicated
- Other investigations are as directed (e.g. LFTs, Coags, drug levels, INR only if on warfarin)
- New cardiac surgery patients have an 8h troponin, then a morning troponin usually until downtrending

Who needs a CXR?

- Intubated patients
- Cardiothoracic surgery patients (at least day 0-2, check afterwards)
- If clinically indicated e.g. intermittent NIV, concerns about respiratory illness
- Check with your registrar if you are unsure

- Order “CXR Morning Round” on Powerchart

How to make a Private admission kit for new hearts

This is done by the night CTICU resident if there is time, in order to prepare for the next day’s cardiac surgery patients. There is a laminated sheet and sample pack available at the nurses’ station for reference.
The computer next to the printer has a printable template that you can use to fill out everything except medication charts (Desktop → Templates → CARDIAC surgery printing templates)

- Imaging Form: CXR “Day 0 Post-Op Cardiac Surgery”
- Pathology Forms:
    - FBC EUC CMP LFT Coags
    - Serial ABGs
    - 8h Troponin
- Fluid Form: Plasmalyte 1000mL, 5-80mL/hr
- Blood Order Form: 4% NSA, 500mL stat (x2)
- Med Chart
    - Make sure you write down your prescriber details on the bottom of each med chart.
    - Day 0
        - Propofol infusion
        - Fentanyl infusion
        - Magnesium sulfate 20mmol IV once
        - Pantoprazole 40mg IV once
        - Paracetamol 1g IV once
        - Potassium Chloride 10mmol IV PRN aiming K 4-4.5
        - Ondansetron 8mg q8h IV PRN for nausea
        - Metoclopramide 10mg q8h IV PRN for nausea
        - Tapentadol IR 50mg q4h PO PRN for pain
    - Day 1
        - Heparin
        - Pantoprazole 40mg PO daily
        - Slow K 2tabs PO TDS
        - Magmin 2tabs PO TDS
        - Paracetamol 1g PO QID
        - Coloxyl & Senna 2tab PO daily
        - (CABG only) Aspirin 100mg PO daily
        - (Valves only) Warfarin (coumadin) – do not need to write dose, chart it so it is not forgotten
        - NB: CABGS and valves (combined) should have both charted.
- NOTE: all hearts should have antibiotics charted for postop prophylaxis (unless allergic). This is now left off the medical chart, for the day team to chart. It includes:
    - Cefazolin 2g TDS x6 doses
    - Vancomycin BD x4 doses
        - To be charted if patients have been transferred from another hospital, or if they have been inpatients for >48 hours prior to their surgery.
        - Dose is 1g if <80kg and 1.5g if >80kg.

Frequently Charted Medications

Remember to check your doses – unlike PowerChart, eRIC does not usually autopopulate medication doses.

Electrolytes

These are all charted in mmol. You do not need to include the diluent unless you specifically want it a certain way e.g. can be given neat via central line if preferred.

- Mg: Magnesium Sulfate
- K: Potassium Chloride
- PO4: Potassium Dihydrogen Phosphate OR Sodium Dihydrogen Phosphate
    - Usually given 5mmol/hr, e.g. 30mmol over 6 hours
- Ca: Calcium Chloride 6.8mmol OR calcium gluconate 2.2-6.6mmol if no central line

Infusions

Drug	Volume +/- Concentration	Rate
Plasmalyte	1000mL	10-100 mL/hr
Propofol	500mg in 50mL in ICU/HDU 400mg in 40ml in CTICU	0.1-30 mL/hr
Fentanyl	500mcg in 50mL	1-20 mL/hr
Dexmedetomidine	200mcg in 50mL	0.1-1.3 mcg/kg/hr
Metaraminol	20mg in 40mL	0.5-30 mL/hr
Dobutamine	500mg in 100mL	0.625-10 mcg/kg/min
Noradrenaline	6mg in 100mL	0.01-0.3 mcg/kg/min
Vasopressin / Argipressin	20u in 20mL	0.6-3ml/hr
Actrapid Infusion	50u in 50mL	1-10 mL/hr

If needed, refer to the Critical Care Drug Protocols (Intranet → Services → ICUCPG → Critical Care Drug Protocols)

Feeding

- TPN: Olimel N9; You should also chart Cernevit + Trace Elements +/- Thiamine for patients starting on TPN. These can be ceased once the patient is at their goal rate (usually the dietitian/pharmacist will advise you).
- NG Feeds: Nutrison Protein Plus

PCA

- The order sentence begins with “PCA” e.g. “PCA Fentanyl”. PCAs are always charted without a background infusion.
    - Fentanyl is 500microg in 50mL, usual dose 10microg with 5min lockout
    - Hydromorphone is 10mg in 50mL, usual dose 200microg with 5min lockout
    - Morphine is 50mg in 50ml, usual dose 1mg with 5min lockout
- Check with your registrar about doses / see if there is a paper chart to copy
- Remember to chart the naloxone as well (100microg x4 doses every 2-3min)

Dialysis

- Do not chart this by yourself

Refer to the eRIC charting guide on ICU Intranet for further guidance (Intranet → Services → ICUCPG → eRIC Tips & Quick Reference Guide → eRIC User Guide)