ST VINCENT'S HOSPITAL DARLINGHURST, SYDNEY
THE CURRAN FOUNDATION INTENSIVE CARE UNIT

Guidelines for Medical Staff 2021

Compiled by:
Department of Intensive Care Services St Vincent's Public Hospital
Sydney NSW

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Welcome to the ICU at St. Vincent's Hospital. We hope that your time in our department will be an enjoyable and productive part of your training.

MEDICAL STAFF STRUCTURE AND WORKING HOURS

There are ten staff specialists in ICU who share the clinical responsibilities and after hours call on a daily basis as rostered.

Priya Nair (Director)	**Mobile 0412 122 692**
David Lowe (Deputy Director)	**Mobile 0418 692 445**
Mani Gopal (Supervisor of Training)	**Mobile 0414 995 813**
Sam Rudham (Director SVPH ICU)	**Mobile 0421 632 892**
Mark Nicholls	**Mobile 0414 951 513**
Hergen Buscher	**Mobile 0437 609 861**
Suhel Al-Soufi	**Mobile 0435 030 566**
Steve Morgan (Supervisor of Training)	**Mobile 0457 322 581**
Shweta Priyadarshini	**Mobile 0433 344 438**
Robert Grealy	**Mobile 0431 633 988**

There are always ICU consultants available in the hospital or on-call, one each for the general, cardiothoracic and private units.
Each of the ICU consultants has certain non-clinical portfolios and areas of interest. Trainees who have particular areas of focus, interest or ideas for project development are encouraged to approach the respective consultant for guidance. Specific areas are as follows:

- **Priya Nair** - Director of General & Cardiothoracic Unit SVH, Risk management, Research, Echocardiography training, Education Officer and Board Member, College of Intensive Care Medicine (CICM), Second part teaching.
- **David Lowe** - ECMO Lead, Equipment and Practice Innovation, Airway management, Trauma, Patient Blood Management, CICM Second Part Examiner.
- **Mani Gopal** – CICM/ANZCA Supervisor of Training, Primary CICM exam teaching, Echocardiography clinical Lead and Teaching, Clinical Nutrition.
- **Sam Rudham** - Director of ICU SVPH, Supervisor of Resident training, Infection Control and therapeutic drug monitoring,
- **Mark Nicholls** - Clinical Emergency/Rapid Response Lead, Medical Student supervision and teaching (UNSW and NDU), BASIC & other course coordinator, ANZICS secretary.
- **Hergen Buscher** - Research Lead, eRIC Medical Lead.
- **Suhel Al-Soufi** - Safety and Quality, Data management, Organ & Tissue Donation Lead, End of Life care.
- **Steve Morgan** – CICM/ACEM Supervisor of Training, Advanced Respiratory Monitoring and Care clinical lead, Primary CICM exam course & teaching coordinator, Primary CICM examiner, , Website design and maintenance.
- **Shweta Priyadarshini (locum) -** Roster coordinator, Coordinator of CICM second part teaching, Education
- **Robert Grealy (locum)** – Basic and advanced critical care echocardiography, ICU Echocardiography Fellowship supervision/teaching, Lung Ultrasound, CICM second part teaching, IT/SVHA Office 365/Teams

TEAM STRUCTURE-

Weekdays

- **South Team**
  - Day: One Consultant, one Provisional fellow, one Registrar, one Resident
  - Night: One Registrar, one resident (most nights) with Provisional fellow and Consultant on-call

- **North Team**
  - Day: One Consultant, one Provisional Fellow, one Registrar, one resident
  - Night: One Registrar, one Resident (most nights) with Provisional fellow and Consultant on-call

- **Private Team**
  - Day: One Consultant, one Registrar
  - Night: One Registrar with Consultant on-call

- **"Outside"/Rapid Response Registrar**
  - Monday to Friday (excluding LADs) – 08:00 to 16:30 hrs – reports to ICU South consultant

Weekends

- **South Team**
  - Day: One Consultant, one Provisional Fellow, one Registrar, one Resident
  - Night: One Registrar, one resident (most nights) with Provisional Fellow and Consultant on-call.

- **North Team**
  - Day: One Consultant, one Provisional Fellow, one Resident
  - Night; One Registrar, one resident (most nights) with Provisional Fellow and Consultant on-call.

- **Private Team**
  - Day: One Consultant, one Registrar
  - Night: One Registrar with Consultant on-call

JUNIOR MEDICAL STAFF WORKING HOURS

Position

- **Provisional Fellow (3 positions)**
  - ICU South and North (at times).
  - DAY 07:30 - 18:00 (20:00 when on-call)
  - First-on-call overnight as rostered for the public hospital (North and South team)

- **Transitional Fellow (2 positions- Echo/ECMO fellow & Education/ECMO fellow)**
  - Day shifts as rostered
  - Participation in the Provisional fellow on-call roster as above.
  - Relief on Provisional fellow roster (leave cover).

- **ICU South Registrar**
  - DAY 07:30 - 20:00

- NIGHT 19:30-08:00

- **ICU North Registrar**
  - DAY 07:30 - 20:00
  - NIGHT 19:30 - 08:00

- **PRIVATE HOSPITAL ICU Registrar**
  - DAY 08:00 - 20:30
  - NIGHT 20:00 - 08:30

- **RMO'S:**
  - DAY 07:30 - 20:00
  - NIGHT 19:30 - 08:00

Roster

- The department covers 3 pods (South, North and Private).
- Registrars are rostered in a two-shift system (12 working hours).
- Each pod is covered by one registrar at any time, except for weekend day shifts in the north.
- One Provisional Fellow is rostered for days in North and South each; one Provisional Fellow will be on remote call overnight across North and South.
- Weekends: There is only one Registrar rostered on weekend days in the South. There is no Registrar cover for weekend days in the North. In addition, one Provisional Fellow will cover the South and one cover the North on weekend days.
- It is expected that the South weekend Registrar will provide cross cover at times when workload is high in the North and also be primarily responsible for transfers and outside activity.
- A Registrar and PF roster is generally released 1-3 months in advance for each term.
- The roster coordinator for registrars and provisional fellows is Dr Cheau Wern Chin, cheauwern@gmail.com. Decisions will be made in collaboration with Dr Shweta Priyadarshini, Shweta.priyadarshini@svha.org.au
- Changes to the roster **are not** possible after the roster is released (except as outlined under swaps).
- An “on-call” registrar is rostered to cover for unexpected and last-minute illness/COVID testing etc. It is expected that this registrar will only be called upon in exceptional circumstances as it results in registrars having to work on their rest/recreation time between shifts.
- All residents, registrars* and Provisional fellows will hereafter be referred to as JMOs.

*Registrars include both Advanced Trainees and Basic Trainees.

Leave

- Annual and study leave allocation is contingent on appropriate staffing levels for clinical duties.
- A registrar doing a 3-month term has a maximum of one week leave.
- A registrar doing a 6-month term has a maximum of two weeks leave.

- Leave for courses and examinations takes precedence over any other leave.
- All requests for leave should be communicated to the roster organiser in writing. Priority is given to those requests received first. Please plan ahead to avoid disappointment.
- Sick Leave: If a registrar or PF cannot attend her/his shift for health reasons it is her/his responsibility to inform the consultant on call as soon as possible. After returning to the unit (or earlier) the roster coordinator and the junior medical office should be informed about the duration of sick leave via email.
- Residents are rostered by the JMO office and all leave requests should be directed to this office.
- Please ensure that you take all of your allocated annual leave for the time period. LADs/ADOs will be allocated as a part of the roster.

LADs (ADOs)

LADs will be allocated according to the award with the aim to accumulate not more than three LADs at a time. JMOs who have already accumulated LADs at the time of starting in ICU should notify the roster coordinator.

Swaps

- Roster swaps are generally discouraged in the interests of continuity of patient care
- If unavoidable, it is the responsibility of the JMO to organise a swap with a fellow JMO.
- A swap can only be organised within the same pay period to avoid overtime payment.
- A swap should not generate unsafe working hours.
- A swap always needs to be approved by all consultants covering the days in question.
- Approval needs to be sought well in advance before the swap.
- All swaps need to be documented on Kronos (by updating the JMO pay office).
- Any other duties (e.g. presentations etc.) affected by the swap must be considered and included with the swap.

Christmas and New Year Roster

Annual leave should not be taken at this time so that the workload and free time can be fairly distributed between JMOs.

ROLES & RESPONSIBILITIES

Resident Medical Officers

- Should consider themselves essential members of the team. They need to stand in, to the best of their abilities, for the registrars when registrars are not available. Thus, they must get to know patients well and have a clear idea of the plans of the day.
- Attend all ward rounds including ID rounds and X-ray rounds. They should actively participate in the duties of the ward round including clear documentation in patients' notes, examination of patients and review of patient charts.
- Complete relevant fields on the "ANZICS" tab in eRIC on Day 1 of admission.
- Assist Registrar in updating Handover/Progress/Transfer Notes on eRIC every shift and on discharge of patients.
- Follow up on the ordering of tests and results and communicate results to the rest of the team.
- Order online routine tests (blood, radiology etc.) for the next day during the day shift. Refer to Section V.
- Update/change/order medications and fluids as appropriate on MedChart &/or eRIC, under supervision of registrar/SR/consultant.
- Liaise with other medical staff if requested to do so.
- Perform some invasive procedures in appropriate situations (i.e. low risk) including venous cannulae, PICCs, central lines and arterial lines with training and under supervision.
- Attend and participate in educational activities within unit.
- Participate in unit research activities.

Registrars (Trainees & Advanced Trainees)

- Should consider themselves the backbone of the ICU team.
- Attend all ward rounds including ID rounds and X-ray rounds. They should actively participate in the duties of the ward round including clear documentation in patients' notes, examination of patients and review of patient charts. It is expected that they participate at a higher level than residents.
- Have ultimate responsibility for updating Handover/Progress/Transfer Notes on eRIC and should check this before uploading on to MediWEB on discharge.
- Have ultimate responsibility for completing relevant fields in the "ANZICS" tab on eRIC after first 24 hours of admission or before discharge of patient.
- Follow up on the ordering of tests and results and communicate results to the rest of the team.
- Update/change/order medications and fluids as appropriate on MedChart &/or eRIC, under supervision of registrar/Provisional Fellow/consultant.
- Perform invasive procedures appropriate to their level of experience. Supervision will be provided by the Provisional Fellow and/or consultant as needed.
- Teach residents and medical students and supervise residents when they are performing invasive procedures.
- Attend and participate in educational activities within the unit. Compulsory attendance at monthly Tuesday trainee education days.
- Strive to take all opportunities to improve their training and participate in examination practice activities.
- Participate in unit research and audit activities.
- Attend Arrest calls and Major Trauma calls immediately. Refer to Section IV.

- Attend to patient referral & reviews as promptly as appropriate then discussing the patient with the ICU Provisional Fellow and/or consultant. The registrar should always strive to be courteous and helpful without being away from the unit for unduly long periods. Repeat reviews and/or handover to primary team may be necessary. A "green form" should be completed, kept in the Referral/Refusal folder.
- Transfer of patients for investigations or interventions. Refer to Section IIII.
- Participate in Ward TPN Rounds. Refer to Section XI.
- **Advanced Trainees** have additional responsibility after hours to assist and supervise trainees within the limits of their capacity, keeping in mind timely escalation to the next level of responsibility e.g. PF or consultant.

Outside Registrars (O1 between 8:00 – 16:30 ONLY)

- Must attend hospital handover sessions without fail and punctually either in person or via Teams at 08:00 and 16:30. Attendance is audited on a departmental basis.
- Must attend Rapid response calls and all major trauma calls in addition to attending code blue/arrest calls, patient referrals, patient transfers and ward TPN Rounds. Refer to sections Daily Routine, Clinical Emergency Response and Parenteral Nutrition.
- They are responsible to attend all calls in the appropriate time (rapid response calls in max 30 min and arrest calls immediately). If they attend other duties (like patient transfers) which would not allow them to fulfil this, an appropriate back-up needs to be organised by handing over pagers to peer registrar. It is expected that registrars liaise with each other so that all duties are performed seamlessly & effectively.
- Conduct during attendance at rapid response and code blue/cardiac arrest calls should always be respectful and collegial with all levels of staff at all times. Acknowledgement of the efforts of the ward team and debriefing of critical incidents when possible is strongly encouraged.

Provisional Fellows

- Perform key roles in the ICU team, assisting the consultant in all aspects of the running of the unit including clinical matters and non-clinical matters such as administration, audit, training and supervision. Each PF will be allocated a non-clinical portfolio in addition to their normal duties.
- Attend all ward rounds including ID rounds and X-ray rounds. They should actively participate in the duties of the ward round including clear documentation in patients' notes, examination of patients and review of patient charts. It is expected that they participate at the level of a fellow/junior consultant.
- Ensure that the residents and registrars are performing their tasks; assisting and supervising where necessary. They are also expected to look after the welfare of the residents and registrars.
- Ensure that all documentation is recorded accurately in the patient record. handover/progress/transfer summaries and "ANZICS" tab on eRIC.
- Ensure that daily plans made during ward rounds are followed through and to make new plans as appropriate, including consultant in discussion.
- Update/change/order medications and fluids as appropriate on MedChart and/or Eric.
- Liaise with non-ICU medical staff, nurses and ancillary staff (e.g. physiotherapists, dieticians etc) and participate in reviews and discussions.

- Update family members of patient's condition and progress as well as update consultant of family members issues.
- Attend Rapid Response, Arrest and Major Trauma calls if registrars need assistance. Refer to Section IV, Clinical Emergency Response at SVH.
- Attend to calls re: patient referrals, reviewing patients as promptly as appropriate then discussing the patient with ICU consultant. The PF should always strive to be courteous and helpful without being away from the unit for unduly long periods.
- Repeat reviews and/or handover to primary team may be necessary. A "green form" should be completed, kept in the Referral/Refusal folder.
- Undertake transfer of patients for investigations or interventions if registrars are unable. Refer to Section III, Intra-hospital Transfer of patients.
- Perform invasive procedures as needed.
- Teach residents and medical students and supervise residents when they are performing invasive procedures.
- Actively participate in unit educational activities, including undertaking primary role in some.
- Strive to take all opportunities to improve their training and participate in examination practice activities.
- Participate in after hours on-call roster with first call responsibilities, with consultant support.
- Actively participate in unit research activities, including screening, randomisation and consent procedures.
- Supervise the night handover round.

ICU Echocardiography Fellow

- Perform in the role of an ICU Fellow with a primary role in fostering echocardiography activities in the unit, including education, training, performance of studies at a high standard and in a timely fashion, reporting studies with feedback to clinicians and archiving.
- Perform or organise the performance of all within-office-hours echocardiography studies in the unit, within office hours. This will involve liaising with ICU consultants, echo technicians and/or cardiothoracic anaesthetists.
- Organise Tuesday echo meetings under the guidance of Dr M Gopal/Dr R Grealy including calendar, organisation of speakers, videoconferencing the meeting via MS Teams. They should also participate actively in the programme with didactic talks as well as QA sessions.
- Foster ICU trainee echo education including participating in the Basic ICU Echocardiography Course.
- Assume responsibility for maintenance and upkeep of all ultrasound equipment in ICU including troubleshooting and transfer of studies to the hospital archive.
- Participate in ICU research activities with a primary role particularly in ultrasound related research.
- Participate actively in improving their own ultrasound education by attending OT, cardiology echo clinics.
- Participate in the PF roster with after hours on-call duties as above.
- Undertake all the above responsibilities of the PF when performing in that role according to the roster.

ICU Education Fellow

Perform in the role of an ICU Fellow with a primary role in fostering education and training activities in the unit including the following:

- **SIM Program**- These multidisciplinary SIM sessions include intensive care trainees (1 Resident and 1 Registrar) and nursing staff. They are held on Thursdays at 2:30 pm in the deLacy building simulation room (5th floor). The aim is to conduct at least 9 sessions over a 6-month period. In consultation with Dr S Morgan/Dr S Priyadarshini.

SIM FORMAT	1. Pre-brief 2. SIM 3. De-brief
TOPICS	**Group 1**
	Difficult Airway Tracheostomy Emergencies Early ARDS Ventilation
	Group 2
	Proning Asthma Ventilation
	Group 3
	CALS VAD arrest Hypotension post-cardiac surgery
	Group 4
	Intracranial Hypertension

- **Trainee Education Day**
  - Learning objectives coordinated with the teaching Consultant
  - Pre-/post-course MCQ (ICU website)
  - Co-ordination with registrars
  - Videoconferencing and recording of presentations using MS Teams
  - One day per month
  - Consultant and learning topics as per table below:

Consultant	Topic
Dr Suhel Al-Soufi	Neuro ICU/ End of Life
Dr Hergen Buscher	Evidence based medicine
Dr Mani Gopal	Renal
Dr Robert Grealy	Metabolic
Dr David Lowe	Haematology/ Trauma/ Blood transfusion
Dr Stephen Morgan	Severe Respiratory Failure
Dr Priya Nair	Cardiothoracic ICU
Dr Mark Nicholls	Liver/ GI/ Nutrition
Dr Shweta Priyadarshini	Paediatrics/ Obstetrics
Dr Sam Rudham	Sepsis/ Antibiotics

- **ECMO education**
    - VA ECMO education day- every 6 months
    - VV ECMO education day- every 6 months
- **ECMO case vignettes** with recent evidence (website)
- **ALS accreditation and CVAD insertion accreditation** (in consultation with Dr S Morgan/S Priyadarshini)
- **Resident teaching** (in consultation with Dr Sam Rudham)
- **Medical student teaching** (in consultation with Dr Mark Nicholls)- includes Friday teaching session from 10:30-11:30 and SIM sessions.
- **Nursing education** (Post-graduate course) in consultation with Pip McLeod (Clinical Nursing Educator)
- **Fellowship teaching sessions** in consultation with Dr S Priyadarshini (Wednesday 15:00 – 17:00)
- Participate in the PF roster with after hours on-call duties as above.
- Undertake all the above responsibilities of the PF when performing in that role according to the roster.

DAILY ROUTINES & OTHER SPECIFIC AREAS

Dayshift duties

- Comprehensive morning handover round
- Structured clinical round and appropriate documentation including update of the "ANZICS" tab in eRIC.
- Liaise with visiting medical teams and communicate suggested management changes to the ICU Consultant
- Daily ICU round with the Department of Infectious Diseases to discuss the appropriate use of antibiotics for our patients
- Review of relevant imaging
- Follow-up of pending laboratory tests and imaging
- Non-urgent procedures such as line insertions
- Coordinate discharges handover to ward teams and discharge summaries
- Ward round (Outside (O1) registrar) for prescription of TPN with the TPN nurse daily (Mon-Fri) before 14:00 hrs. Liaise with ICU consultant/PF regarding problems or complex cases.
- Evening round with consultant/PF to ensure that all tasks have been completed. Pathology forms and x-ray requests for the following day should be completed at this time.

Nightshift duties

- Evening handover round will occur between the day team & night team (trainee or AT) with the PF joining where appropriate.
- The Advanced Trainee has additional responsibility in assisting & supervising the Trainee where required after hours. Where appropriate, escalation to the next level of responsibility (PF or consultant) should be done.
- The Advanced Trainee also has the responsibility of identifying likely patients for discharge at the end of the shift and communicating this information with the Nurse in charge or NUM.
- Structured clinical round and appropriate documentation including update of the "ANZICS" tab in eRIC.
- Consultants and/or Provisional fellows should be kept updated of new admissions and significant changes in patient condition overnight. They should particularly be informed of all referrals and refusals for admission to ICU. The PF or consultant on-call will be available for help and support at all times. Immediate assistance may also be obtained from the Anaesthetic, Surgical, Medical or ED JMOs on duty within the Hospital.

Handover Rounds

- Senior Handover Rounds should happen between 4-5pm and involve the Provisional Fellows and Consultants of the South and North Units. Residents should attend these rounds to confirm planned investigations that need to be ordered for the next day. Provisional Fellows not on-call for the day will remain on duty till 6 pm.
- Junior Handover Rounds happen twice a day; night handovers between 19:30 and 20:00 (20:00 and 20:30 SV Private ICU) and day handovers between 07.30 and 08:00 (08:00 and 08.30 in SVPH ICU) between the day registrars & residents and the night registrars and residents.

- All pertinent information relating to patients as well as plans for the day/night and expected problems/potential issues need to be communicated in a concise manner.

Recommended Ward Round Structure

- For effective and efficient ward rounds, several tasks need to be performed concurrently with full participation from all team members.
- One person, usually the PF or Consultant (although registrar may be encouraged to perform this role) articulates the pertinent issues for the patient, after perusal of the case notes and other available information and then examines the patient.
- A second person will undertake the tasks of reviewing all information pertinent to the patient on the bedside computer, including investigation results and medication charts and updates the other members of the team. The "ANZICS" tab in eRIC should be updated at this time.
- A third person is in charge of documenting the ward round into the medical record.
- Division of tasks will be made according to available resources & competing priorities.
- As much as possible, all participants in the ward round, including the bedside nurse, should be fully informed of all events, decisions and plans made.
- A number of workstations on wheels (WOWs) are reserved specifically for ICU medical staff. It is the responsibility of the ICU team on that shift to ensure that these workstations are plugged in and charged well in advance of handover so that they can be utilised for the duration of the ward round of the next shift.
- The electronic drug chart needs to be reviewed prior to discharge to ensure that ward requirements are met.

Weekly Interdisciplinary Rounds

These are held every Tuesday between 11a.m. and mid-day in the ICU tutorial room. Two to three patients with complex issues and/or long stays in the ICU are selected for discussion. A brief medical presentation is made and input from the bedside nursing and allied health (physiotherapy, social work, dietetics, speech therapy) is sought. A comprehensive plan is then documented in the notes. A member of the team is then allocated to communicate a summary of this discussion and goals of care to the patient, where possible and their family.

Private ICU

The Private ICU is accredited for training by the CICM as part of the St Vincent's Campus Intensive Care Services.

Objectives of Private ICU rotation-

- The Private ICU sees a large volume of elective surgery, particularly Cardiothoracic and Neurosurgery. Given the quaternary referral nature of the Public ICU, particularly for cardiothoracic surgery, the Private Hospital rotation enables the numbers required for sign-off of the Cardiothoracic and Neurosurgery training modules required by CICM. The case mix for these specialties in the Private ICU is representative of ICU practice that you will face in the future.
- The "one on one" interaction with the Intensivist without the larger team should enable a more tailored learning experience based on the trainee's seniority. In particular it is an ideal environment to complete the OCEs and WBAs required by the College. We recommend that during each rostered week of days in the Private

ICU, at least one OCE is completed and encourage trainees to make a mutually suitable time with the consultant to do this. WBAs for procedures can also be completed and we encourage trainees to identify these opportunities when they arise so that the consultant can be immediately present to observe the relevant procedure being performed.

- Opportunity to examine patients with relevant pathology preoperatively e.g. valvular heart disease, neurological conditions. This is usually not available to ICU trainees and is beneficial for clinical exam preparation.
- Exposure to the differences and similarities in the Private and Public Health systems and experience with direct communication with consultants of other specialties without going through JMOs and registrars.

Logistics of the rotation

All registrars rotate through the private ICU working both day and night shifts as per roster. There is no Provisional fellow or Resident in the ICU. Each Private ICU weeks is generally shared by 2 Consultants, one usually working Monday/Wednesday/Thursday and the other Tuesday/Friday/Weekend. The Registrar has the same duties as Public Hospital JMOs. In order to facilitate working in the private, the following should be organised prior to starting your private shifts:

- Security card access to private hospital.
- Access to Web deLacy System (SVPH computer information system). Application form available on Intranet.
- Apply for prescriber and provider numbers, if you don't have them already.
- Medical Indemnity for working in the private hospital. The daily routine in the private is essentially the same as in the public hospital with a few notable differences.
- "Blue Sheets" These serve a dual role in the private hospital. Not only are these used for collecting APACHE data but also serves as a problem sheet. These should be filled out on patient admission with a chronological list of patient problems and updated regularly with any new problems or significant investigation results.
- Given the relatively quick patient turnover, it is the responsibility of the night registrar to complete the APACHE data for the patients expected to be discharged the next morning.
- Pre-op assessment- It is expected that all inpatients booked for admission to the ICU should be seen the day before. A list can be obtained from the ward clerk. This is an opportunity to highlight any potential problems and facilitates the admission process to the unit especially when busy with multiple admissions. Trainees are encouraged to use this opportunity to practise elicitation of clinical signs as required in the examination.
- Ward referrals. Any ward referrals should be seen promptly and discussed with the consultant on duty. Occasionally you may be asked to assist the ward RMO e.g. difficult venous cannulae.
- Any patient reviewed on the ward or duties performed outside of the ICU should be documented in the black book (kept on the front desk)
- Attendance at all the teaching activities for the unit is compulsory including X-ray meeting, journal club, morbidity/mortality, Friday case presentations, Echo teaching and Trainee Education Days. Your clinical duties on the trainee education days will be covered by the consultant group.

Communication

- To ensure clear communication, minimal confusion and to optimise patient care, all major management orders must proceed through the final common pathway of the ICU Consultant. The ICU rounds are the primary instrument of care discussion and multidisciplinary input. However, many management decisions will occur outside this forum and should be appropriately channelled via the ICU consultant.
- No change in management or drugs should be instituted by visiting teams without prior discussion with the ICU Provisional fellow/Consultant
- Ensure that you are contactable at all times and that you inform the nurse in charge when you leave the floor.
- Families should be spoken to by the JMO or Consultant accompanied by the patient's nurse, at least once on each day they visit. To avoid confusion, a consistent description of the patient's condition should be given, usually after discussion with the Consultant. In the case of long-term patients, key family members should be identified for receipt of the daily report and transmission to other members of the family. Precise surgical details are usually best given by the surgeon. Prognosis should be in general terms and guarded with awareness that occasionally the unexpected does occur. Avoid any inappropriately optimistic statements.

Referrals

- All referrals for admission (i.e. from the wards, ED, or outside hospital) need to be documented in a "green form" in the Referral/Refusal folder. This includes details on time of referral, demographics and brief details about current status and details on refusal/admission delay as applicable.
- Whenever a patient is reviewed on the wards or in ED, the time of review should be documented in the notes and the assessment should include a plan of management or schedule for review, if necessary. If the patient is deemed to require ICU admission, an indication of acceptance to ICU along with the time should be clearly documented. This enables tracking of delayed access to an ICU bed.
- Outside referrals should be assessed thoroughly, but rapidly and a decision for admission or otherwise taken in a timely manner to minimise absence of the registrar from the floor, particularly after hours.
- The ICU consultant should be informed about all referrals. Patient details may need to be handed over to the PF/registrar on the next shift for review and follow up as appropriate.

Admissions & Discharges

All unplanned admissions and all discharges must be discussed with the ICU Consultant. Following this, NUM or Nursing team leader need to be informed. All discharges must be notified to the accepting surgical or medical team complete with a discharge summary.

Things to do on admission

- Handover of information on arrival
- Detailed clinical assessment
- Baseline blood tests, CXR (where indicated) and ECG
- Documentation of relevant history, clinical findings and investigations

- Plan of management
- Electronic medication chart
- Update of the “ANZICS” tab in eRIC

Transport of patients

Intra-hospital transport of the critically ill in SVH is the primary responsibility of the Intensive Care Unit. This includes ICU patients as well as patients from the ED or operating rooms who require a medical escort for investigations or interventions. Depending on workload, however, this may be at times, negotiated with the Anaesthetics or Emergency department. The ICU Provisional fellow or Consultant will allocate this responsibility as appropriate.

Withholding resuscitation ('Not for Resuscitation' (NFR) or 'Do not resuscitate’ (DNR))

- It would be inappropriate to initiate CPR where it is judged that in the event of cardiac or respiratory arrest, resuscitation attempts offer no benefit or where the benefits are small and overwhelmed by the burden to the patient.
- Given that judgments about the benefits of a therapy ultimately reflect the values, beliefs and hopes of the patient and/or doctor, any decision to withhold resuscitation must be carefully considered, properly justified and documented.
- A medical practitioner does not need to obtain agreement from the patient or family to withhold resuscitation, but it is still good clinical practice to discuss why it is not being offered in the context of broader end of life goals of care conversation.
- Discussion to withhold resuscitation should involve the patient (if possible) and/or the patient’s family, the ICU consultant, the surgeon and/or physician involved in the care of the patient before being decided upon. The decision should only be made by senior medical staff.
- The decision to withhold resuscitation attempts should be very clearly and unambiguously stated in the patient record. The record should include who has been involved in making the decision, who has been consulted and why the decision has been made.
- In addition, the decision to withhold resuscitation needs to be documented in the relevant NSW form (“Resuscitation Plan – Adult”).
- In the event of any acute clinical deterioration occurring in a patient where the resuscitation plan is unknown or is in any way ambiguous or has not been adequately documented, resuscitation should be commenced as appropriate and the ICU consultant contacted.
- Very rarely, a Resuscitation Plan needs to be amended or revoked if there has been a change in prognosis or if the patient is going to have an intervention in the operating theatre. Again, changes should be clearly and unambiguously documented in the patient record and the relevant NSW form.

Renal Replacement Therapy

- The most common method of RRT in our ICU is Continuous Veno-venous Haemodiafiltration (CVVHDF) via a Vascath inserted into a large vein.
- The default method of anticoagulation for CVVHDF is citrate regional anticoagulation. This is particularly useful for patients with high bleeding risk, HITTS

and where previous attempts at CVVHDF have been associated with short filter lives. This form of anticoagulation is contra-indicated in patients with liver failure, shock states with ischaemic liver injury and with high volume haemofiltration. Electrolyte replacement as per protocol for citrate CVVHDF is done via MedChart, under the following tabs in order: Protocols, then Endocrinology, then Fluid Electrolyte abnormalities, then Renal – Citrate Dialysis Electrolyte Replacement.

- Alternatively, heparin may be used for anticoagulation. Patients are heparinised to APTT 65-95 sec.
- Hemosol fluid bags have no potassium and will need potassium added as appropriate. If regional citrate anti-coagulation is used, be aware that the **PrismoCal dialysate** bags have pre-mixed potassium at a concentration of 4 mmol/L, so **potassium should NOT be added**. Dialysate and replacement fluids are each infused at 1 litre per hour with heparin anti-coagulated circuits. For citrate CVVHDF, fluid prescription is patient weight-based as per protocol.
- Please refer to ICU web under policies for full details of protocols. There will also be a folder at each bedside with the paper copy of ICU protocols.
- CRRT orders must be completed/updated daily in eRIC during the ward round.

Blood Transfusion

This ICU has a restrictive blood transfusion policy.

Hb	ICU Guidelines for transfusion
>100 g/L	**Transfusion not required**
71-100g/L	**Transfusion not required unless:** Ongoing significant blood loss Low cardiac output state Hypoxic lung disease Significant coronary artery disease Age >70 with reduced compensatory mechanisms Brain injury with initial GCS <9 Haematology neoplasia (<80g/L)
≤70g/L	**Transfusion usually required**

Fluid management

Fluid resuscitation or replacement with **Plasmalyte** (balanced crystalloid solution) should be practiced. Avoid the use of Normal Saline, except in the management of metabolic alkalosis. **Maintenance fluid should not be used** if the patient is receiving full dose enteral or parenteral nutrition. If required, this should be with 4%Dex+ 1/5 NS +/- Electrolytes unless contraindicated (e.g. cerebral oedema risk)

Available colloids include 4% Albumin (contains 150mmol/L of sodium and chloride) and 20% Albumin (salt poor) - these should only be used in specific instances-e.g. major blood loss prior to blood or treatment of severe hypoalbuminaemia - and prescribed via MedChart and eRIC.

Clinical Emergency Response at SVH

Introduction

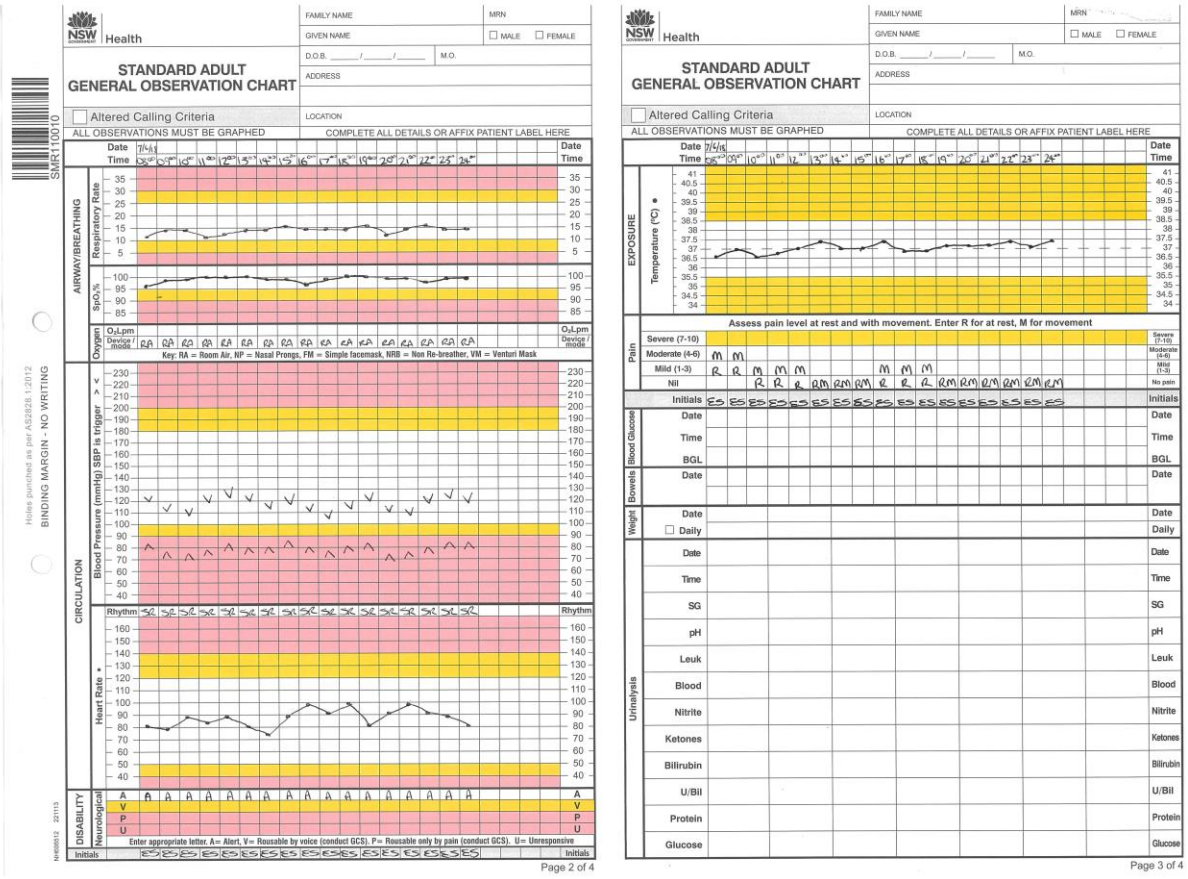
Intensive care traditionally responds to code blue calls where a patient has rapidly deteriorated. Rapid Response Teams (RRTs) were instigated based upon the underlying principle that early recognition of acute patient deterioration, and subsequent activation and intervention by a suitably trained team, prevent serious patient adverse events and improves patient outcome. Implementing this system required the ward staff and primary care team to consistently and effectively follow the afferent and efferent limbs of the system and document the RRT call.
As yet there are no set training pre-requisites for RRT members. We expect that the college and the CEC will develop guidelines for responding to patient. Registrars should ensure that they have been ALS accredited and also familiarise themselves with the contents of the ALS pack so that they are aware what drugs are and are not available for use.
The recognition and management of the deteriorating patient is the responsibility of the entire hospital not just ICU.

Rapid Response Governance

The rapid response system is overseen by the Standard 8 committee and Clinical Emergency Response Committee. The intensive care component is Mark Nicholls and the Clinical Emergency Response Coordinator.

Rapid Response System

The system is based on the NSW statewide “Between the flag” system. It is based on a three tiered system with escalation pathways in the yellow zone (Clinical Review), red zone (Rapid Response) and code blue. We attend patiently in the red zone and code blue.



Clinical Review (Tier 1)

The call is activated by the ward nursing staff. The nurse activating the call notifies the nurse in charge and carries out an assessment of the patient. The patient is to be reviewed by medical staff within 30 minutes. ICU is not involved in these calls.

Zone	Nurse allocated to patient or delegate	Medical Team
Clinical Review (yellow zone)	• Notify medical team of yellow zone observations via page or phone and await review • Notify nurse in-charge • Carry out A-G assessment and document in the patient's medical record • Carry out a full set of observations every 15 minutes until medical staff review • Escalate to a Rapid Response call if the patient remains in the yellow zone after 1 hour (if the calling criteria has not been altered by medical staff)	• To review the patient within 30 minutes of being notified • Option to alter the calling criteria if yellow zone observations are due to a known chronic condition and the observation is normal for this patient (Can only be initiated by a Registrar or more senior MO – AMO must be notified of alteration) • Document the review in the patient's medical record including the management plan

RRT – Rapid Response Team (Tier 2) calls
The patient requires a review within 10 minutes. A registrar must review patient. The rapid response needs to be documented with findings and management plan. A Rapid Response minimum data set MUST be completed for every rapid response. Monday to Friday (excluding public holidays) from 8am to 4.30pm In Hours the response is an ICU Registrar, the Admitting Team Registrar and JMO. Outside these hours the response is the after hours medical medical registrar / SOW and the JMO assigned to ward. The rapid response will be escalated to a Code Blue if patient is not reviewed within 10 minutes. If the patient breaches the same red zone following a review within 1 hour, a code blue will be activated.

For intensive care, the ICU Outside Registrar (O1) is to respond in hours Monday to Friday, 0800 to 1700 hours. Their role would be to address the immediate problem at all times liaising with home team. Any escalation to ICU/HDU should be discussed with the provisional fellow/consultant on for the units. After hours and on weekends it is the primary care team/medical registrar/ward on call team that responds as the RRT. If there is a failure of response by the RRT (tier 1 call) within 30 minutes, it is escalated to a Code Blue call.

Rapid Response (red zone) Up to 30 minute response	• Call 2222 to activate Rapid Response • Remain with the patient and continue to monitor vital signs every 15 minutes until medical staff review • Handover to medical staff • Notify nurse in-charge • Document reason for Rapid Response call in the patient's medical record with a Rapid Response alert sticker • Follow escalation plan initiated by medical team • Escalate to a Code Blue call if there is no medical response or patient deteriorates further or if the patient breaches for the same reason 1 hour post Rapid Response intervention	• Review patient as soon as possible (up to 30 minute response window) • A Registrar or more senior delegate must see the patient • Handover to ICU Registrar during hours • Initiate treatment to address deterioration • Ensure documentation is completed including the reason for Rapid Response, the management plan and follow-up plan • Notify AMO of call • Escalate to ICU if required • Escalate to code blue if patient's condition does not improve with management plan • Handover to after-hours medical staff

Code Blue calls (Tier 3)
Meant for more severe derangement in patient's condition, or when tier 1 calls are not attended within the designated time. An ICU registrar (usually the O1, unless occupied otherwise) should attend all Code Blue calls. There will also be at least 1 ALS trained ICU nurse. If help is needed, the PF or consultant on the unit should be notified immediately. After-hours Code blue calls in SVPH are to be attended by the private ICU registrar as well as 1 public ICU registrar. The ICU registrar is expected to perform the team leader's role, assign appropriate roles to other team members and coordinate the patient's management. The ICU registrar should be supportive of the ward teams. They should ensure completion of the code blue form & ensure the primary team consultant is aware of events.

Code Blue (Any medical emergency) Immediate Response	• Call 2222 to activate code blue call • Remain with the patient • Commence Basic Life Support/Advanced Life Support if required until medical staff arrive • Carry out continuous vital signs until medical staff arrive	• Medical team (if present) to handover to Code Blue ICU team • For medical staff to support code blue team who will lead the management and interventions

Other call types

Trauma calls

South ICU registrar is expected to attend major trauma calls in ED. The trauma team leader is an ED consultant or registrar who will allocate roles.

ECMO CPR Calls

ECMO CPR is available for appropriate patients during office hours and maybe possible after hours if resources allow. Time is of the essence in making decisions. As such, the consultant on for the unit should be notified immediately when there is a call for ECMO CPR. Refer to the eCPR policy for details

Paging System

The paging system is the ASCOM system. The pager is older but works immediately a call is sent by the switchboard. This paging system is tested twice a day.

Outside Registar (O1) roles, responsibilities and expectations

- At 0800, the rostered ICU Registrar (O1) picks up the Rapid Response pager #6894 from the Senior on Ward at morning handover (currently in the ICU tutorial room)
- The O1 meets with the Night Medical Registrar to receive handover of sick patients (discussed in more detail below).
- The O1 attends to Rapid Response Calls between 0800 until evening handover (currently at 1630)
- The O1 hands over the #6894 pager and gives clinical handover to the Senior on Ward at evening handover.
- Rapid response system - **RRS and Code Blue calls**
    - The Outside Registrar's primary responsibility is to attend RR calls and code blues
    - Attend the RR call within the prescribed time
- Collect RRS and code blue data

- Interaction with ward teams
    - Be very supportive of ward teams and nursing staff. Only constructive comment.

Handover

There is a hospital policy for handover which is an attached appendix.

Time	Location	Attendees	Running order
8:00am **Morning Handover** (normally finished by 8:15-8:30am)	Conference room 2 (Mon-Thurs) Conference room 3 (Fri)	• Night Senior on Wards (SoW) • Night Medical and Surgical JMOs • Day Outside ICU Registrar • Representative from ALL acute medical and surgical teams • Consultant • CERS CNC (optional) • Psychiatric consult-liaison registrar (optional)	Handover is led by Night SoW: • All patients of concern (PoC) are handed over, using the ISBAR format and minimum data set. • Where able, plans for ongoing care are recommended. • Where able, Night SoW can share results and do short teaching. • Night JMOs to raise any concerns about patients they have seen. • Any other concerns from night are raised. This time also allows the option for brief teaching/communication (<10 mins). Use of pagers or phones should only be in urgent situations.
4:30pm **Afternoon Handover** (normally finished by 5:00pm)	ICU Tutorial Room (level 5 Xavier, opposite ICU)	• Evening SoW • Evening R7, R8, R9, R10 • Day outside ICU Registrar • Ward JMOs from medical and surgical teams handing over PoC • Afterhours Nurse Manager (AHNM) • Afterhours CNE • Afterhours Critical Care Outreach Nurse (when rostered)	Handover is led by Evening SoW: • Introductions of all staff in room. • Access Senior on Wards list on Web de Lacy to ascertain PoC from day. • Go through each level (7-10) to receive handovers of PoC, using the ISBAR format and minimum data set. • Day outside ICU registrar contributes to handover as well as day teams. • Clarify ceilings of care. • Where able, share results and do short teaching. • AHNM hands over new or expected admissions, and other patients of concern as raised by NUMs/NIC, including REACH patients. • AHNM uses WatchList to ensure all PoC are handed over. Use of pagers or phones should only be in urgent situations.

Rapid response data collection

There is a minimum data set that needs to be collected for RRS using the Web deLacy system. There is a quick guide attached as an appendix.

INVESTIGATIONS

Regular Tests

- UEC, CMP, LFT, FBC & coagulation screen are performed AM daily on all patients unless otherwise indicated.
- The frequency of ABGs should be minimised. Blood gases can be taken from the arterial line by the nurse. Arterial punctures must be performed by the JMO, using a 25-G needle.

Therapeutic Drug Monitoring

St Vincent's Hospital offers therapeutic drug monitoring for a number of drugs including the following:

Cyclosporine and Tacrolimus

- Test performed Mon - Fri for routine (Sat/Sun on call). Samples received in the lab by 12:30 Mon-Thurs and 11:00 Fri for same day service. Results available after 15:30 on day of sample arrival in laboratory.
- Tacrolimus is taken as a trough level just before the next dosing.
- Cyclosporine needs a level taken two hours after oral administration or as a steady state level during continues infusion.

Antibiotics and antifungals

- The pharmacokinetics of antibiotics and antifungals is considerably altered during critical illness.
- Aminoglycosides: given 24 hourly. Should have levels taken at least 8 hours after the last dose. Levels should be taken daily on all patients on aminoglycosides.
- Vancomycin: levels are taken prior to the next dose or along with morning bloods if the patient is on a 24-hour infusion. A current hospital project addresses this and may inform dosing advice.
- Piperacillin/Tazobactam, Meropenem, Flucloxacillin, Cefotaxime, Cephazolin, Cefepime, Benzyl Penicillin, Ciprofloxacin and Linezolid, Fluconazole, Voriconazole, Itraconazole and Posaconazole:
- Test performed Mon to Fri (sample in lab by 11am for same day service). Results available after 4pm.
- All levels are to be taken as trough levels in a separate purple top (EDTA) tube except for ciprofloxacin, which is taken as a peak level, 10 min after completion of infusion.
- A dedicated request form should be used for TDM samples and the time of last dose and exact time of sample taken must be documented. Samples cannot be requested as add-ons.
- Check at the earliest possibility after 3 doses have been administered and recheck after another 3 doses if dose or condition has changed.
- Order before pm dosing is encouraged to prevent confusion with 'routine' morning bloods and allow for processing the next morning.
- Fact sheets are integrated into MediWEB which have the latest information regarding dosing and drug levels for therapy and toxicity to support the decision making.

Blood Cultures

Any rigor or spike of fever to 38.0 degrees requires 2 separate sets of venous blood cultures 5 minutes apart to be drawn according to the following protocol:

- Prep skin with Betadine or Chlorhexidine with alcohol and allow to dry for two minutes - Alcowipe is not sufficient to sterilise the skin. Use a “no-touch” technique. If palpation of the vein is necessary, surgical scrub and gloving should be performed.
- 10 mls of blood should be collected into each of two bottles.
- Never take blood cultures from an arterial line unless newly inserted.
- Due to the lack of manifestations of classic signs of infection, ECMO patients may require twice weekly blood cultures.

Chest x rays

In order to reduce the number of unnecessary “routine” CXRs in ICU and improve efficiency of “on demand” films, the following categories may be utilised:

1a. Intubated: CXR on morning round
1b. Intubated but only recently admitted with post intubation CXR: no routine CXR.
1c. Long-term ventilated/tracheostomy wean: change to 2nd or 3rd daily ASAP
2a. Extubated stable HDU: no routine CXR.
2b. Extubated but D1 post cardiac surgery: CXR on morning round.

All patients have a CXR ordered electronically by the day resident during the afternoon. The radiographer will ring the night registrar at 0700 to determine which patients are in categories 2, 4 or 5 to determine the total number of morning CXRs actually required.

CT Scans

There is a permanent slot available at 1000 hrs on weekdays for ICU – this should be booked early. Do not request IV contrast for patients with renal dysfunction unless this is absolutely necessary and has been confirmed by the Consultant.

Tests on bronchoscopy specimens for immunocompromised patients

- M/C/S
- Selective media and prolonged hold for Nocardia spp.
- Fungal Culture
- AFB Smear and Culture
- Respiratory Viral Multiplex Panel
- PJP detection
- Galactomannan Antigen (Haematology/BMT only)
- Aspergillus PCR (Haematology/BMT only)
- Cytology incl Silver and Auramine stains

DOCUMENTATION

Patient record

- Patient data documentation in St Vincent's Hospital is based on paper and electronic records.
- St Vincent's ICU has introduced the eRIC system in 2018.
- While progress notes are continued on paper when patients are in the wards, all ICU progress notes are documented in eRIC. This includes notes by non-ICU teams.
- Entries in the notes need to be an accurate record of events and procedures. Relevant clinical findings need to be clearly documented.
- A list of relevant current issues must be articulated by the team on round and documented prior to proceeding with clinical examination. These clinical findings should then be noted and the plan for each patient must be documented and communicated to the bedside nurse. It is important that the thoughts of the team re: diagnosis and management plan are documented in the patient record.
- The following electronic systems are used for documentation:
- MediWEB: All blood results, imaging, microbiology, ordering of tests, clinical resources.
- MedChart: Ordering of all medications in the non-ICU setting.
- eRIC - see separate chapter below.

eRIC:

- A dedicated training session is offered for JMOs new to eRIC.
- eRIC automatically captures vital signs from the ICU patient monitor, ventilator and CRRT device. Other parameters may need manual entry.
- Some blood and microbiology results are automatically pulled into the eRIC system. More comprehensive and detailed results are found in MediWEB, which should be used as the ultimate source.
- While progress notes are continued on paper when patients are in the wards, all ICU progress notes are documented in eRIC. This includes notes by non-ICU teams. Other teams should be directed to eRIC if needed.
- Specific eRIC note fields need continuous update (e.g. acute and resolved problems) and this should be part of the ward round and discharge process.
- Drugs are generally charted in MedChart. However, continuous medications and blood products listed in a white list (see appendix 2) are charted in eRIC.
- A number of paper charts are now discontinued, and the documentation is maintained in eRIC. However, some specific charts have either no equivalent in eRIC or are in use outside the ICU and hence paper documentation is continued.
- On admission to ICU the MedChart medications need to be reviewed and relevant continuous infusions transferred to eRIC and discontinued in MedChart
- On discharge from ICU, the eRIC drug chart should be reviewed and relevant continuous infusions transferred to MedChart or paper chart.
- On admission to ICU past medical history, current and chronic problems and other relevant facts need to be documented in the eRIC admission template. It is particularly important to document diagnostic categories and other categorical fields relevant for ANZICS data documentation.
- On ICU discharge an electronic handover of care (eHOC) document is generated and needs to be published in MediWEB (see Appendix 3).

ANZICS data

The “ANZICS” tab in ERIC is to be completed for all patients during their ICU admission. This data collection is a requirement of training for the College of Intensive Care and will be considered in the term assessment of JMOs. The Provisional fellows and Consultants are ultimately responsible for the accurate completion of this data and will supervise this process. In particular, “Chronic Health Conditions”, “APACHE III diagnosis”, and “GCS” need to be filled in.

Chronic Health Evaluation (on admission)

- Respiratory: COPD w. severe exercise restriction or chronic hypoxia, hypercapnia, secondary polycythaemia, severe pHT
- Cardiovascular NYHA IV: symptoms at rest/ on minimal exertion
- Renal Chronic haemodialysis or peritoneal dialysis
- Hepatic failure Episodes of hepatic failure/ encephalopathy
- Cirrhosis Biopsy proven cirrhosis or portal hypertension
- AIDS HIV positive with AIDS defining complications
- Immuno-suppression Chemo within 4 w of admission

Steroids (>1.5mg/kg MP for ≥5 days)

- Lymphoma Any type of lymphoma
- Haem. Malignancy Acute leukaemia or multiple myeloma
- Metastatic cancer Proven distant metastases

APACHE III Diagnosis (first 24 hours of ICU admission)

Main reason in the first 24 hours of why the patient was admitted into ICU. It may not be the reason for hospital admission or the definitive diagnosis or the discharge diagnosis.

Glasgow Coma Score (Lowest GCS during the first 24 hours in ICU)

IMPORTANT: GCS at just prior to therapeutic sedation

- Post-operative patients pre-theatre GCS
- Transfer/Retrieval patients GCS prior to intubation/sedation
- Drug overdose patients GCS prior to admin of therapeutic sedatives
- Seizure patients GCS prior to admin of therapeutic sedatives

INFECTION CONTROL

Hand Hygiene

- The hand hygiene (HH) policy is a well proven method of prevention of patient-to-patient transmission of infection. Please make sure to complete the online e-learning module.
- The patients in the ICU are highly vulnerable to acquiring healthcare associated infections, which lead to increased morbidity, mortality, length of stay and worsening in their outcomes.
- The basic steps in hand hygiene:
- Use alcohol based hand rubs (ABHR) (Cutan foam) before and after touching anything in the patient environment.
- As we do not have single rooms with doors, zones can merge together quite easily, therefore the point at which to perform HH when you enter the *Patient Zone* has been somewhat open to individual interpretation. We have therefore decided on a strategy that would be workable both for the nursing and other staff as well as us. Essentially there is the *Patient Zone*, which consists of the patient, bed and all the surrounding equipment and the patient equipment trolley (the one with the syringes etc.).
- You need to perform HH when you enter this zone and before you leave this zone, whether or not you touch the patient. It is not necessary to perform HH in between activities in this zone, unless your hands are contaminated with body fluids or you are performing a procedure.
- There is controversy around the bedside WOW and patient chart. The nurses consider these in the *Patient Zone* and we consider them part of the *Shared Space* - for example we may do our handover between beds, not necessarily wash our hands before and after. For pragmatic reasons, because the risk of transmission through these inert objects is relatively low, we have classified them as “not in any specific zone”
- This means you will not be audited when you are using them and this will improve our audit performance, hopefully without risk to our patients. Of course, you are encouraged to continue to perform HH at every opportunity when using these.
- In relation to the 4 single rooms, the bedside WOW and patient notes are considered as part of the *Patient Zone* and you will need to perform HH before and after touching them even if you don’t touch the patient or surroundings. Always wash your hands with soap and water (or a hand disinfectant) if any contact with body fluids or visible soiling or following any contact with patients with *C difficile* (where ABHR is not effective in destroying the spores of this organism).
- Disposable gloves must be worn for all contact with patients and disposed of in the nearest bin followed by hand hygiene with either ABHR or with soap and water.
- “Bare below the elbows” including removal of watches, jewellery and rolling up long sleeves is mandatory for all clinical staff working in the ICU.
- Plastic aprons are to be worn for any clinical examination or attending to the patient and when any non-sterile procedure is being performed. These must be removed and disposed of before leaving the patient space. Do not wear these gloves and aprons at the computer in the patient’s zone.
- Traditionally, “Medical Staff” have always been reported as having the lowest compliance to the HH policy. However, detailed audit has shown that this is

frequently attributable to visiting medical teams and not the home ICU team. Please make sure therefore to remind your colleagues from other departments to comply with the HH policy in our unit.

Central Venous Catheters

- The length of the catheter inserted from the skin is usually: 40-45 cm with cubital fossa lines.
- 15 cm with jugular lines and (R) subclavian lines 16 cm with (L) subclavian line
- 24 cm straight Niagara when using the femoral route for VasCaths
- The CVP should be immediately measured to ensure the line is not arterial, in the right ventricle or up the neck, by looking at the pressure trace, and then immediately checked by CXR.
- The subclavian route is preferred for ICU patients unless the risk is unacceptable. Femoral route should be avoided due to a high risk of infection and venous thrombosis except when other routes are contraindicated. If a femoral line is inserted in an emergency situation, consideration should be given to changing it to an alternative route when the patient stabilises.
- Surgical caps, masks, gloves and gowns are mandatory for all central line insertions and the handwashing technique should be meticulously followed.
- All JMOs will be given a logbook at the start of their terms and accredited for central line insertions according to their abilities. Junior staff should make sure they have been signed off as accredited for central line insertion prior to independent insertions.
- Always stitch the catheter clamp 1" away from the skin insertion hole so that the site can be inspected easily and a chlorhexidine Biopatch applied. Also use the StatLock device to secure the proximal end of the catheter to prevent line dislodgement.
- With internal jugular and femoral insertion sites, Ultrasound guidance should be routinely used to identify both the position of the vein, its patency and relationship to the internal carotid artery.
- Always dispose of sharps responsibly and meticulously. This should be done by the person performing the procedure rather than leaving this for nursing staff to clean up. Dispose of linen in appropriate receptacles provided in the unit.
- Insertion of all invasive lines should be documented in the patient notes with the help of the rubber stamp available on the main desk.
- The tips of all central lines should be considered for culture on removal.
- Standard “Blue” arrow lines. Consider Antibiotic coated “Brown” lines for transplant patients (bone marrow, heart/lung), long term antibiotic therapy and difficult venous access.
- Every line insertion should be documented using the specific tab on eRIC which will be demonstrated during the training sessions.

Please ensure that you have watched the video and completed the online e-learning module and that your CVC accreditation is completed. The links are:
https://www.dropbox.com/s/0j57m67su374fjh/SVH%20CVC%20insertion%20video.mp4?dl= 0
https://www.dropbox.com/s/qj1jj1b7y3f9j1l/SVH%20ICU%20CVC%20Competency%20Quiz.docx?dl=0

Antibiotic Stewardship

Empiric broad spectrum antibiotics should be started when appropriate as soon as possible.
Choice of antibiotics should always be discussed with PF or consultant before initiation.
Daily weekday rounds with the ID/microbiology teams is undertaken to discuss every patient's infection status and antibiotic choices.

EDUCATION

Weekly Meetings

DAY	TIME	Every	SESSION	PRESENTER/COORDINATOR	FORMAT
Monday	13:30 – 14:30	Weekly	Radiology Meeting	Joga Chaganti	Discussion of imaging
	1430 – 1530	Monthly	M&M	S.Al-Soufi/Rose Kennedy	Presentation & discussion of KPIs, Mortality & Morbidity
	1430 – 1530	Monthly	Journal Club	Provisional fellow/HB	Critical appraisal of recent article of interest
	1430 – 1530	Monthly	ICU Events Talk	Guest Speaker	Talk on ICU related topic
	14.30 – 15.30	Monthly	Research Meeting	HB/Research Coordinator	Update on current & proposed unit research projects/ECMO
	14.30 – 15.30	6 monthly	ECMO Audit	Provisional fellow/HB/SAS	Presentation and discussion of local experience
Tuesday	13.30 – 14.30	Weekly	Echo Meeting	Echo Fellow/RG	Alternating topics and case discussions
Wednesday	12.00 – 18.00	Weekly	TTE teaching	Sue Bradley/Echo Fellow	Hands-on TTE practice
	15.00 – 17.00	Weekly	CICM Part 2 Teaching	S. Priyadarshini	Preparation for the FCICM
Thursday	10:00 – 16:00	Monthly	Trainee Education Day	Consultants	Topic/system based presentations
	14:30 – 15:30	Weekly /fortnightly	Simulation session	S. Priyadarshini/S. Morgan/Education fellows	Simulation lab/ICU
	17.00 – 19.00	Weekly	CICM Part 1 Teaching	S. Morgan	Preparation for the CICM and ANZCA primary
Friday	11.30 – 12.30	Weekly	Case presentation and discussion	Resident, Registrar/D. Lowe	Presentation and discussion of instructive cases
	11.30 – 12.30	3 monthly	ID Journal Club	David Andreson	ID KPI's & discussion of relevant articles

Trainee Education Days

Through the year, 10 Trainee Education Days will be conducted usually. These will encompass the breath of the ICU syllabus as detailed by the college. Each study day will be coordinated by 1 or 2 consultants with topics and questions to be discussed, sent out to JMOs in advance. All JMOs are required to attend, though it is expected that those who are on leave or have been on night duties may not be able to do so. JMOs rostered for daytime duties during the study day will be excused from their clinical duties. Attendance will be recorded and this will be considered in the term assessments of the individual trainees. The topics are detailed in the ICU Education Fellow section (above).

Online education

The ICU consultant group has purchased departmental subscriptions for a Critical Care Medicine websites viz. GoTheExtraMile (GTEM). All trainees are strongly encouraged to make use of this avenue for self-education. GTEM posts monthly assignments which must be completed by all trainees included in the subscription. This will be taken into consideration in the ITER/term assessments of the individual trainee. We receive regular reports of the degree of participation of trainees in the tests/assignments though not the actual marks. All trainees should email Dr Mani Gopal with their preferred email address details to be included into the subscription lists for access to GTEM.

Online SVH education/practice resources

Heart-Lung Transplant
https://svhaorg.sharepoint.com/sites/Intranet-sydney-public/SitePages/Heart-Lung-Documents.aspx

VAD
http://intranet.stvincents.com.au/intra/page?sid=26657732SVMHSSQL12&gen=0&page=1986SVMHSSQL12&ent=SVH93

Total artificial heart (TAH)
https://svhaorg.sharepoint.com/sites/Intranet-sydney-public/SitePages/Heart-Lung-Documents.aspx

Insulin infusion transition prescribing
https://svhaorg.sharepoint.com/:b:/r/sites/Intranet-sydney-public/SiteAssets/SitePages/ED-Endocrine-Resources/Insulin%20infusion%20transition%20guideline.pdf?csf=1&web=1&e=xZQtN4

Diabetes/Hyperglycaemia prescribing-
https://svmhstrim.stvincents.com.au/SVHWD/Record/795352/file/document?inline

Sliding scale insulin prescribing-
http://trim-pr9-02/SVHWD/record/548028/file/document?inline

Hyponatraemia management
http://svmhstrim.stvincents.com.au/SVHWD/record/894657/file/document?inline

Hypertriglyceridaemia IV Insulin management
http://trim-pr9-02/SVHWD/record/833922/file/document?inline

DKA/HHS
Follow as per specific chart for DKA/HHS in ICU. Do not use standard insulin infusion protocol for hyperglycaemia.

Surgical/Interventional procedure antimicrobial prophylaxis
https://svmhstrim.stvincents.com.au/SVHWD/Record/883916/file/document?inline

SVH Clinial Education Meetings

Tuesday	12.45-13.45	Medical Grand Rounds
Wednesday	7.15 - 8.00	Trauma meeting
Thursday	13.15 -14.00	Cardiology Grand Rounds
Friday	7.30 - 8.30	Transplant meeting

Mandatory online education

The following online learning packages are mandatory and all JMOs are expected to complete them within the first few weeks of starting employment at St. Vincent's. You may be asked to provide proof of completion when you meet your mentors/supervisors. These are available from the SVH website under mandatory learning, under Junior Medical Staff.

- Central Line Insertion http://www.cec.health.nsw.gov.au/concluded-programs/clab-icu/cli-training/cli
- Blood Safety https://www.bloodsafelearning.org.au/
- Hand Hygiene http://www.hha.org.au/LearningPackage/medicallearningpackage.aspx
- Respecting the Difference http://svha.learnconnect.com.au/Auth/Login?ReturnUrl=%2f

TRAINING

Mentors

Provisional fellows and registrars who are attached to ICU for at least 12 months will be assigned a mentor from the ICU consultant group. The mentor will closely oversee their mentees progress, provide feedback, career advice and assist with any difficulties that may arise. Mentees should make arrangements to meet their respective mentors within the first 4 weeks of starting in the unit. Regular 3 to 4 monthly meetings with mentors on both a formal and informal basis will provide the maximum benefit from this programme and trainees are encouraged to make regular appointments with their mentors to avail of this.

Training

The training you will receive in your time in this ICU will include informal (bedside, clinical) training as well as formal (protected teaching time, didactic or interactive, tutorial, simulation etc) training. Training activities can broadly be divided into general critical care training and training aimed at success in examinations. All JMOs are encouraged to take full advantage of general critical care training to obtain the greatest benefit from your time in ICU. This will also allow you to contribute more towards patient management. This programme runs throughout the week. The details are covered in the section on Education (Section VIII).

Journal Club, Audit, Morbidity & Mortality

Monday sessions for Journal Club or ECMO audits are coordinated by Dr Buscher &/ or Dr Suhel Al-Soufi. PFs will be rostered to present these sessions.
Trainees spending >3months in the unit and not imminently taking exams will be required to select a project-either an audit or research study to work on. A list of possible projects will be available at the beginning of your term. Please speak to Hergen Buscher or Suhel Al-Soufi and select one of these early in your term.

Simulation

The ICU Simulation Education programme comprises weekly/fortnightly sessions coordinated by Dr S Priyadarshini and Dr S Morgan with the Education Fellows. These are conducted Thursdays in the Don Harrison Simulation Centre. Nursing staff from the public and private ICUs attend on alternate weeks. 1 -2 registrars/residents working the day shifts will attend. This is protected teaching time and the PF and/or consultant will cover the floor during the session. Clinical and non-technical aspects of patient and crisis management are explored during the course of the session. Registrars not rostered on the floor are also welcome to attend the sessions.

Echo & Ultrasound Training & Logbooks

Echocardiography education includes weekly didactic sessions and hands-on practice for interested JMOs. Didactic sessions will take place on Tuesday 1.30 – 2.30pm alternating between topic presentations and QA/reporting involving echo case studies. Hands-on practice is offered to all CICM trainees via rostered sessions with Ms Sue Bradley, cardiac sonographer. JMOs interested in achieving qualifications in ultrasonography e.g. CCPU, DDU etc. will be assisted in their endeavours.

Friday Case Presentations

For the Friday case presentations a recent/current case from one of the units will be discussed. A resident will present the case and a registrar will discuss a particular aspect of the case. One of the ATs will have the responsibility of rostering these sessions under the guidance of Dr David Lowe. Any relevant non-ICU specialists or fellows involved in the care of the patient being discussed should be invited for the session. Presentations should take the form of computer projected slide presentations and include all investigations of interest (e.g. echo loops, CT scans). Please take a few minutes before the session to ensure that your presentation loads and projects.

Exam oriented training

Examination oriented training is undertaken in coordination with JMOs. This includes written and viva practice for Part 1 FANZCA, CICM & ACEM and written and clinical (viva, hot cases) for Part 2 CICM examinations. Trainees preparing for examinations will be identified at the beginning of the term and weekly exam-oriented activities planned accordingly. The onus is on the trainee to participate in these activities.

Primary Exam Tutorials

The teaching programme for the Primary Examinations of CICM & FANZCA, including viva practice sessions is organised by Dr Mani Gopal and Dr Steve Morgan generally on a Thursday evening.

Fellowship Exam Tutorials

The teaching programme for the Second Part Examination of CICM is organised by Dr Shweta Priyadarshini. Please ensure that a number of formal case presentations with consultants under exam conditions are done prior to completing your formative case assessments required for the examination.

Other training

In addition to the above, specific training into particular aspects of critical care management is offered. This includes courses such as the BASIC course, echocardiography course, ECMO training etc.

Paperwork & Training Assessments

Residents will need to have their mid-term and final assessments completed by meeting with Dr Sam Rudham.
Trainees (residents and registrars) will need to meet Dr Mani Gopal or Dr Steve Morgan for completion of their specialist training assessments required by various colleges (ANZCA, ACEM, CICM). Trainees must ensure that they make time for this well in advance of the time they need to be submitted. It is the responsibility of the individual trainee to ensure that the individual college requirements are met. Please discuss your individual training requirements, so that we can ensure that your efforts are directed appropriately.

- All CICM trainees under the new curriculum will need to ensure that they perform and submit 2 Observed Clinical Encounters in each 6-month period.
- All CICM trainees are expected to complete CICM logbooks with timely entries of

procedures performed. These will reviewed when meeting Supervisor of Training for ITER.

Communication and IT and data security

You will receive a Windows username and password to enable you to login to any workstation in the hospital. These login credentials are the same used to access MediWeb (patient results), MedChart (the hospital prescribing system) and a number of other hospital systems.
Additionally, every member of staff including JMOs receives an svha.org.au email address on commencement of employment.
Having logged in with your windows username and password to any hospital PC, opening the Outlook application will give you access to your SVHA emails. Alternatively, you can access your SVHA email using the same credentials via the Outlook Web access website https://outlook.office.com, whether or not you are logged into that workstation or not. By downloading the Outlook app to your mobile device (iPhone or Android), you can access your SVHA email at any time, on or off site.
Even if you have supplied a personal email address to Medical HR and the ICU department, the hospital's position that all employees should regularly check their SVHA email. This is particularly important at the present time as this is the main method of communication of important updates in relation to COVID-19 and other operational issues.
The hospital has formally adopted Microsoft Office 365 suite as the official SVHA day to day office software platform. This encompasses MS Outlook, Word, Excel, PowerPoint, Teams and a number of other applications. Any documents/letters/medical certificates or presentations that contain identifiable patient details, images or other data must be created and remain within the hospital Office 365 platform. When you login to a hospital workstation, there is a personal allocation of space on network drive (H:) that is only accessible to you. Any such documents should be stored there in line with hospital security policy. There is also an ICU shared drive (G:) which is accessible to all staff.
At no time should patient identifiable data be copied onto personal storage media and removed from the hospital. If you are preparing a presentation for one of the ICU meetings, you must ensure you remove and such information prior to working on these projects at home.

Microsoft Teams

SVHA has now endorsed Microsoft Teams as the preferred function to enable real-time communication between team members.
The SVH ICU Medical Staff Team is the main day to day team used by the department. All medical staff are added as members of this team following commencement in ICU. There are multiple channels within this team relating to different areas of interest within the department.
MS Teams functionality includes:

- Ability to use on your personal mobile device
- Full video-conferencing/presentation technology
- Ability to record presentations for viewing at a later time by Team members unable to attend the talk
- A calendar of forthcoming meetings and events within the department with links to access to talks
- Instant messaging to all or specific groups of medical staff within the ICU (e.g. registrars, provisional fellows)

- 1-1 or group chat between members of the Team
- Posting of information in relation to the regular departmental educational meetings
- Posting of journal articles of general interest or of interest to specific groups within ICU
- Ability to take and transmit photographs of scans or other sensitive information securely.

We would ask all ICU junior medical officers to use their svha.org.au email credentials to access and utilise MS Teams. This facilitates easier access and greater functionality/security within both the desktop and mobile applications. If you are having problems with this, please talk to Dr R Grealy for assistance.

Up to now, many clinicians had relied on standalone consumer chat tools to exchange sensitive clinical information and images. **These tools are in conflict with SVHA's security and compliance requirements and the hospital has now asked that all staff to move to MS Teams**. If you need to communicate with other staff sensitive or patient identifiable information, this should be done so using Teams. Photographs taken with mobile devices within the Teams chat function can be sent to the recipient instantly and securely without the image being stored on the device.

Mandatory Training

All trainees will undergo training and assessment in BLS, ALS and CICO during the first weeks of their rotation. Please provide certificates from previous similar courses at the beginning of their term.

RESEARCH

A research coordinator (RC) is rostered on Monday and Wednesday to Friday and will be available on call on weekends. Research based education activities include monthly research meetings and journal clubs. Provisional fellows and echo fellows will take turns in presenting at journal clubs. All JMOs are encouraged to scan the current ICU literature for new and relevant clinical trials. All consultants have a commitment towards improving the research activity in ICU. Dr Hergen Buscher is the coordinator of research activities in the unit.
Ongoing research activity:

- The unit participates in a number of multicentre trials in association with ANZICS CTG and other research bodies.
- SVH guided investigator-initiated trials involve studies with a spectrum from QI projects to RCTs.
- The ICU website contains information about all current trials including essential recruitment information.
- All JMOs are expected to continuously screen for patients who could be enrolled in ongoing studies and discuss them with the RC or their seniors.
- All members of the medical team need to be aware of how to recruit, randomise and consent patients after hours and on weekends.
- All JMOs are welcome to actively participate in clinical research.
- All CICM accredited JMOs are expected to finish a research project and it is recommended to address this requirement early.
- Registrars and residents are required as part of their training to identify and participate in a project or audit during their term (see Training Section)

PARENTERAL NUTRITION SERVICE

The following is a brief summary of how the Parenteral Nutrition (PN) Service at St Vincent's works and what PN prescriptions are available. More detailed information regarding St Vincent's Hospital policies and procedures relating to PN can be found in the Intranet - Clinical Practice Manual: N3-N3.1.

Key Team Members

Dr Mani Gopalakrishnan, Staff Consultant, ICU
Georgia Wakefield, Clinical Dietician, pager 6365

Indications for Parenteral Nutrition

In general, PN is only indicated if the bowel is unable to be used for enteral feeding and this condition is expected to continue for a minimum of seven days. In the ICU, PN may sometimes be considered when EN is not achieving adequate nutritional goals; sometimes in combination with EN.

Prescription of PN

TPN is prescribed on MedChart by clicking on Protocol, then Gastrointestinal, then Parenteral Nutrition, then selecting the appropriate PN. This will automatically select Soluvit & Vitalipd and Addaven (Trace Elements) in the correct dose. When the patient is in ICU, PN should also be prescribed in the IV fluid prescription section.

PN Regimens at St Vincent's Hospital

- 3 in 1 formula (2.46 L bag, Fresenius Kabi). The lipid component is not premixed and can be mixed in just before hanging up. This is the preferred PN for most ward patients and for ICU patients. Prescribed as SMOFKabiven with electrolytes. Refrigeration not needed; shelf life up to 24 months. Maximum rate 102 ml/h. Vitamins & trace elements (including iron) not included and need to be prescribed as Soluvit & Vitalipid and Addaven (Trace Elements).
- 3 in 1 formula without electrolytes (1.97 L bag, Fresenius Kabi). The lipid component is not premixed and can be mixed in just before hanging up. This may be the preferred PN for ward patients with electrolyte problems eg patients with renal failure. Prescribed as SMOFKabiven EF (Electrolyte Free). Refrigeration not needed; shelf life up to 24 months. Maximum rate 82ml/h. Vitamins & trace elements (including iron) not included and need to be prescribed as Soluvit & Vitalipid and Addaven (Trace Elements).
- Soluvit N consists of water-soluble vitamins while Vitalipid N consists of fat soluble vitamins. 1 vial of Soluvit is reconstituted with 1 vial of Vitalipid and added to 100 ml of Normal Saline and infused separately over 3 to 4 hours.
- Addaven (Trace elements with iron) are provided in a pre-mixed syringe and injected into the bag of PN by nursing staff using an aseptic technique immediately prior to administration.
- PN solutions should hang for no longer than 24hours, after which time a new bag and IV giving set should be started. PN should be administered via a controlled infusion device through a central line.

Ward PN Service at St Vincent's Hospital

- The ICU Outside Registrar and Georgia Wakefield review ward patients on PN from Monday to Friday, at 1 pm. On this round, the PN is prescribed for the following day. Before weekends, low activity days and public holidays, PN is prescribed through until the next normal working day. It is the responsibility of the ICU South registrar rostered on the weekend to review TPN patients/ lab results as needed.
- It is the responsibility of the ICU registrar prescribing the PN, to also prescribe any additional IV fluids/ electrolytes as required. This excludes specific IV fluids such as heparin infusions or blood products. Total daily fluid intake and output should be taken into consideration.
- The CNCs of the PN team will ensure central venous access is obtained for patients requiring PN. Outside of usual working hours the ICU department may be called upon to establish central venous access, particularly if the anaesthetic department has a heavy workload.

Monitoring

BSLs are attended 6/24 for the first 24-hours post-commencement of PN. If stable, the BSL can be evaluated less frequently. Elevated BSLs requires consultation with the endocrine JMO. Insulin regimen will usually be commenced by the endocrine team. The endocrine team should be notified of any changes to the infusion rate of PN.
UECs and FBCs are generally only requested on Monday, Wednesday and Fridays unless otherwise indicated. On Mondays, LFTs, Ca, Mg, PO□, are routinely assessed; more frequently if necessary.

General Concepts

A physical assessment, fluid balance, status of the CVC and the appropriateness of continued parenteral nutrition should be assessed each visit. Weight loss, general physical exam, recent food intake, serum pre-albumin and T-cell counts are the key clinical indicators that evaluate patients' current nutritional status.
Patients likely to be suffering from moderate to severe malnutrition should be considered high-risk for developing re-feeding syndrome and the introduction of nutritional support should be done gradually. Sometimes, it takes a week before optimal daily caloric can be delivered. Close monitoring of serum electrolytes and cardiac function is also necessary.
A dietician's input is invaluable when trying to provide optimal nutrition. Consult with them, particularly when trying to avoid starting PN or when transitioning from parenteral to enteral.
In summary, at each visit the ICU registrar should consider the general condition of the patient including changes in the underlying condition necessitating TPN, weight gain/loss, daily fluid balance, blood results, blood sugar changes, CVC puncture site and vital signs. The ICU registrar should discuss any issues of concern with the ICU Provisional fellow or Consultant.

ORGAN & TISSUE DONATION

- All JMOs in our ICU are expected to consider organ & tissue donation as part of end-of-life care

- All patients in the Intensive Care Unit or Emergency Department **who are suspected or diagnosed to be brain dead** should be considered as potential organ donors and must be referred to the Donation Specialist Nurse (via switch after- hours 27/7 service).
- All patients in the Intensive Care Unit or Emergency Department on whom **withdrawal of life-sustaining treatment** has been agreed should be considered as potential organ donors and must be referred to the Donation Specialist Nurse (via switch after-hours, 24/7 service)
- Donation after Circulatory Death (DCD) provides an alternative pathway for those patients for whom donation after brain death is not possible or appropriate. This typically involves an initial decision where the patient's treating team and family agree that the continued use of 'life sustaining treatment' would be therapeutically futile, overly burdensome to the patient or not reasonably available without disproportionate hardship to the patient, carers or others.
- DCD may be possible following withdrawal of cardio-respiratory support and declaration of death according to traditional criteria if the family agrees to donation based upon their understanding of the patient's wishes.
- It should not be assumed that any particular clinical feature (e.g. age, infection or malignancy) would constitute an absolute contraindication to donation and the medical suitability of a potential donor is a responsibility that should always be shared with the donation team (Donation Specialist Nurse/Medical and/or NSW Organ and Tissue Donation Service)
- Family should be given an opportunity to respect the patient's wish to donate organs or tissues upon their death. The Australian Donor Registry is checked by the donation team prior to any donation conversations to ascertain if the individual had registered their wishes. Families may experience distress, guilt or regret following a death if they had known their relative wished to be a donor, and yet donation was not discussed with them.

DEATH OF A PATIENT IN ICU

Introduction

The JMO has a number of responsibilities in the event of the death of a patient in ICU. These responsibilities depend on whether the death is classified as requiring referral to the coroner or not.

- Occasionally the body of a patient who has died intra-operatively may be brought to ICU for the family to view before the body is transferred to the mortuary. The ICU JMO has no responsibility for the documentation required for such cases. In these cases, provision of information to the family should be undertaken by surgical or anaesthetic staff.
- The time of death and the means of establishing the diagnosis (e.g. absent rhythm or pulse, no spontaneous breaths, pupils fixed and dilated) should be promptly and clearly documented in the eRIC at the time of death. Significant events preceding the patient's death should also be clearly documented including details of attempted resuscitation and other medical personnel that may have been in attendance or consulted during resuscitation.
- Brain death with the maintenance of haemodynamics is less common and requires diagnosis by accepted tests of brain death. The potential for the patient to become an organ donor should always be considered (see Section "Organ Donation").
- Unless specifically contra-indicated or refused by family, all transplant patients and patients who have had mechanical circulatory support devices, should be considered for autopsies. The necessary paperwork for this should be done by the heart or lung transplant team. The ICU JMO should ensure that this happens.

Persons to Notify

The deceased patient's family should be notified as soon as practical after the patient's death. During normal working hours, the ICU consultant or a senior member of the primary medical or surgical team would be the most appropriate person for this task. In general, the most suitable individual is one who has interacted comfortably with the family on previous occasions. Depending on circumstances, for example after hours, the responsibility of informing the family of a patient's death may fall on the JMO on duty at the time. However, it may be more appropriate for a senior member of staff to undertake the task particularly in cases of unexpected death. The JMO should consult the ICU consultant in cases of doubt. As a general rule, notification of a patient's death should be by direct face to face communication and not over the telephone.

- The ICU consultant on duty should be informed of a patient's death regardless of time of day or night. The exception to this rule is when a patient is expected not to survive and the ICU consultant has specifically requested not to be contacted until the morning. In the event of an unexpected life-threatening deterioration, the ICU consultant should be called immediately during the attempted resuscitation.
- As a general rule, the surgeon/ physician responsible for a patient's care should be informed of the patient's death regardless of time of day or night. In some circumstances, it may be more appropriate to inform the surgeon/ physician at a reasonable time (e.g. 07:00) the next morning. If there is any doubt, check with the ICU consultant.

- It is courteous to notify the other consultants who have been involved in the care of the patient. This notification can usually be left to the next day.

Documentation

Death Certificate

All deceased patients need to have a death certificate filled in with the exception of those patient deaths that are deemed to be Coroner's cases (see below). The death certificate documents the cause of death, the duration of the illness that caused death and other illnesses that may have contributed to the cause of death. The death certificate should be included in the medical record.

Report of the Death of a Patient to the Coroner (Form A)

This is the form to use when reporting a case to the coroner. If filling in a Form A, do not fill in a death certificate. If the death has occurred in the operating theatre or very soon after, Form A is completed by one of the surgical team. If the death has occurred later in the ICU, then the ICU JMO is responsible for completing the Form
A. Form A is prepared in triplicate. The original and duplicate is given to the police and the triplicate is included in the patient notes.

Report of Death Associated with Anaesthesia/Sedation (Form B)

This will be filled in by the appropriate anaesthetist. The original and duplicate is given to the police, a third copy is retained in the notes and a fourth copy is sent to the Special Committee Investigating Deaths Under Anaesthesia (address PO Box M25 Camperdown 2050).

Attending Practitioner's Cremation Certificate

This is required by the NSW Dept. of Health for all deceased patients undergoing cremation. Often at the time of a patient's death, the relatives are not sure what the funeral arrangements will be and it is often easiest to simply fill in this form for all deaths and leave it in the patient record. Do not fill in this form if the death is reportable to the coroner (see below).

Request for Post-Mortem Examination (for pathology)

This is a St Vincent's request form for the Pathology Department. It should be filled in for non-coronial deaths where a post-mortem has been requested by the surgeon or physician involved in the patient's care. It is NOT a consent form and should not be signed by the deceased's relatives. This form should not be completed for coroner's cases, as these cases will have their post-mortem examination at the morgue in Glebe. For discussion regarding post mortem examinations, see Circular from Mortality and Morbidity Committee.

Consent for Non-Coronial Post-Mortem Examination

This is a consent form to be filled in by the ICU JMO and signed by the senior available next of kin. This form is carbon-copied in triplicate with copies going to the medical record, anatomical pathology and the relatives. The relatives have the option of consenting to either a limited or to a full post-mortem. The options available for a limited post-mortem are many and can be confusing. It is useful to be reasonably familiar with this form before approaching relatives for consent. The Post Mortem Coordinator can be contacted via switchboard, or via the After-Hours Nurse Manager, to provide advice and to support the patient's relatives during the request for a Non-Coronial Post Mortem.

Coroner's Cases

Certain deaths fall under the jurisdiction of the coroner and as such need to be reported to the coroner for further investigation into the events surrounding the death to ascertain the cause of death. The most likely deaths that need to be reported to the coroner in ICU are those where the cause of death is unknown or is uncertain and those where death WAS NOT the reasonably expected outcome of a health-related procedure carried out in relation to that person. The NSW health document IB2010_058 provides a checklist that has been drawn up to determine whether a death should be reported to the coroner (http://www0.health.nsw.gov.au/policies/ib/2010/pdf/IB2010_058.pdf).

A death that is reportable to the coroner requires the completion of "Form A" – Report of Death of a Patient to the Coroner. In addition, the police need to be called to the hospital to identify the body in the presence of the deceased patient's relatives. This is to enable the same police officers to then identify the body to the coroner's representatives. The nurse in charge of ICU at the time of the patient's death is responsible for calling the police.

Deaths occurring during, within 24 hours or as a result of an anaesthetic, are no longer reportable to the Coroner unless other criteria are present e.g., death was an unexpected outcome. A form (Report of Death associated with Anaesthesia/ sedation) still needs to be filled in and sent to the Special Committee Investigating Deaths Under Anaesthesia.

Death is not reportable if it follows an accident attributable to old age, if the person is above the age of 72. The medical practitioner must state in the certificate that it is given in pursuance of S38 (2) of the Coroner's Act 2009.

Please refer to the Coroner's Act for more details
http://www.health.nsw.gov.au/policies/pd/2010/pdf/PD2010_054.pdf

In general, in coroner's cases, the patient's body should not be altered in any way before being transferred to the Coroner's Court in Glebe. This means that endotracheal tubes, gastric tubes, intravenous lines, catheters etc. should be left in situ.

Relatives are, at times, caused distress by police questioning and by being asked to carry out the necessary identification formalities without having been advised in advance of the reason for police enquiries. Where deaths are reported to the Coroner, the ICU JMO should, where possible, explain to relatives the formalities required by the Coroner's Act to forewarn them of the necessary identification procedures.

The Hospital is responsible for the safe custody of the body until the body is removed, under the direction of the Coroner, by the Police Force. This implies the safe custody of the correct body in the same condition as when death occurred. For this reason, access to the body for identification purposes should be appropriately authorised and supervised by the police. Access to the body for any other reason, including compassionate reasons, should be appropriately authorised and supervised by a senior medical officer, nurse unit manager or acting nurse unit manager for ICU.

Appendix 1 Checklists for Deceased Patients

Routine death:

- Coronial checklist
- Death Certificate
- Cremation Certificate
- SVH Patient Death Screening Form
- Ring Eye Bank – (02) 93827288

Coroners:

- Coronial checklist
- Report of Death of a Patient to the Coroner - Form A
- SVH Patient Death Screening Form
- Ring Eye Bank - (02) 93827288

Death with Post Mortem request:

- Coronial checklist
- Death Certificate
- Cremation Certificate
- SVH Patient Death Screening Form
- Ring Eye Bank - (02) 93827288
- Page P.M Co-ord. Pg. 6535 0800 – 2230 pm. A/H page A/H Nurse Manager to contact on-call social worker.

Death within 24hrs of an anaesthetic (non-coronial):

- Coronial checklist
- Death Certificate
- Cremation Certificate
- Report of Death Associated with anaesthesia/sedation – Previously Form B*
- SVH Patient Death Screening Form
- Ring Eye Bank - (02) 93827288

Coroners within 24hrs of anaesthetic:

- Coronial checklist
- Report of Death of a Patient to the Coroner - Form A
- Report of Death Associated with anaesthesia/sedation – Previously Form B*
- SVH Patient Death Screening Form
- Ring Eye Bank - (02) 93827288

* When completed, the Report of Death Associated with anaesthesia /sedation Previously Form B - original copy, must be mailed to:
Director General, C/O Special Committee Investigating Deaths Under Anaesthesia, Clinical Excellence Commission, GPO Box 1614, SYDNEY NSW 2001.
The carbon copy is filed in the patient's notes.

Appendix 2 - eRIC White List

All the following drugs and transfusions are charted in eRIC (and not in MedChart). All other drugs will be charted in MedChart or on separate paper charts (as per current hospital policy). Reference to specific policies and paper charts are preferred if applicable (like 'adjust according to St Vincent's DKA protocol'). Insulin infusion for DKA, HIET and hypertriglyceridemia and heparin infusions will be prescribed on eRIC AND the paper chart.

Continuous Infusions:
All Crystalloids (including Plasmalyte, Dextrose in all concentrations)

- All enteral nutrition
- Alprostadil
- Acetylcysteine
- Actrapid
- Adrenaline
- Alteplase
- Amiodarone (loading dose MedChart)
- Arginine
- Atropine
- Bivalirudin
- BLING Piperacillin-Tazobactam
- Labetalol
- Levosimendan
- Lignocaine
- Metaraminol
- Methylene Blue
- Midazolam
- Milrinone
- Morphine
- Naloxone
- Neostigmine
- Nimodipine
- Noradrenaline
- Octreotide
- Pantoprazole
- Pralidoxime
- Propofol
- Salbutamol
- Sodium chloride 3%
- Sodium Bicarbonate
- Sodium Nitroprusside
- T3
- Thiopentone
- Tirofiban
- TPN (Vitamins & thiamine in MedChart)
- Urokinase
- Vasopressin (Argipressin)
- Meropenem

- Cisatracurium
- Danaparoid
- Dexmedetomidine
- Dobutamine
- Epoprostenol
- Esmolol
- Ethanol
- Fentanyl
- Furosemide
- Glyceryl Trinitrate
- Heparin
- Isoprenaline
- Ketamine (not dosifusors)

Blood products:

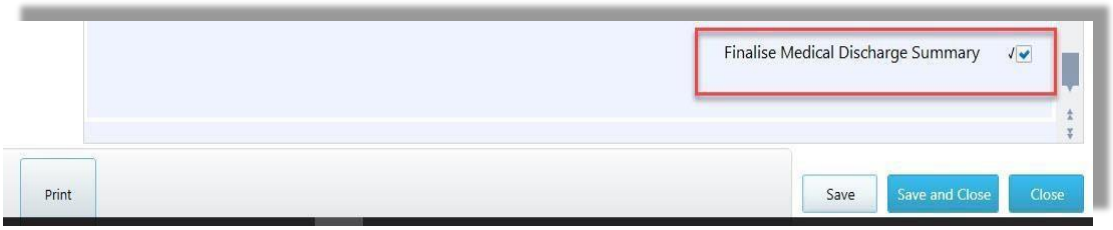
- Albumin 4 and 20%
- PRBC
- Cryoprecipitates
- FFP
- Platelets

Appendix 3 - HOW TO PUBLISH THE eHOC

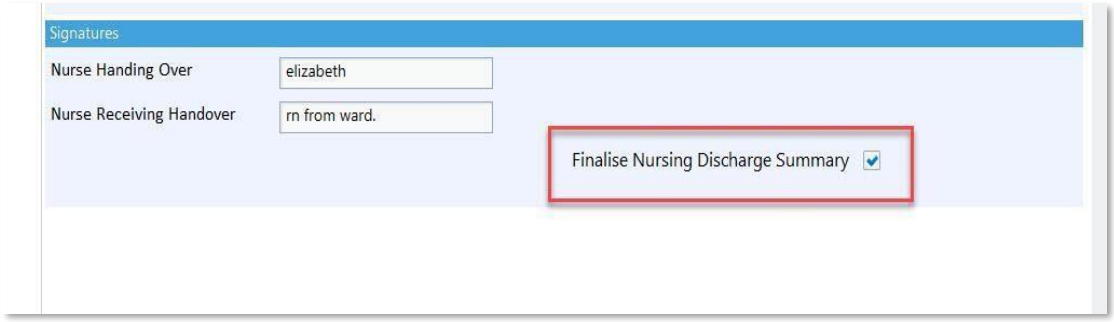
Team Leaders should ensure that electronic Handover of Care (eHOC) is published in MediWEB before the patient is transferred out to ICU. Please see Appendix 1 to check the eHOC in MediWEB.

The following steps are guided for nursing staff to publish eHOC from eRIC:

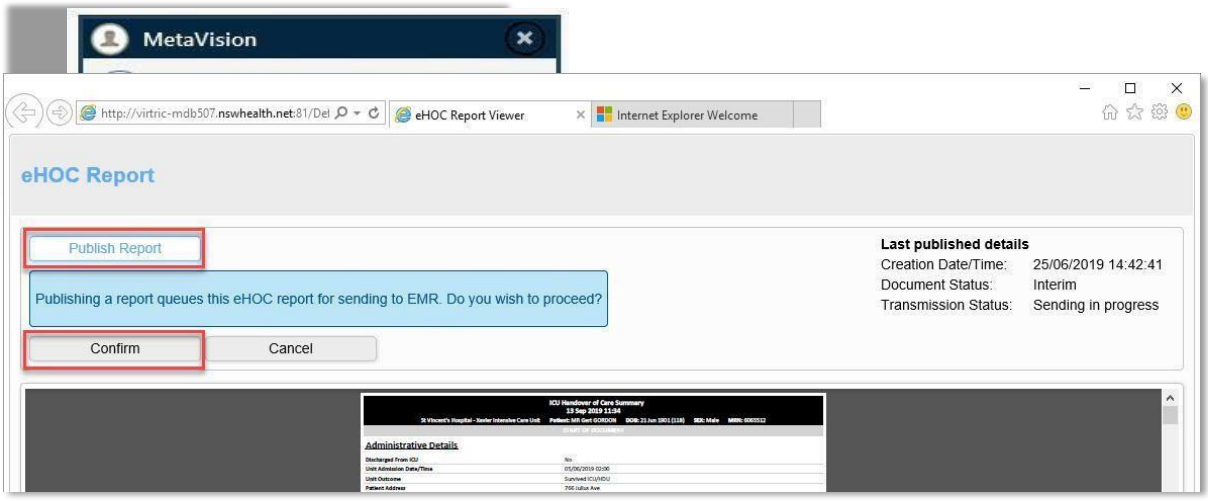
1. Make sure that the Medical Discharge Summary has been finalised by the Medical Team



2. Complete the Nursing Discharge Summary and tick on the finalised button. Click Save and Close button

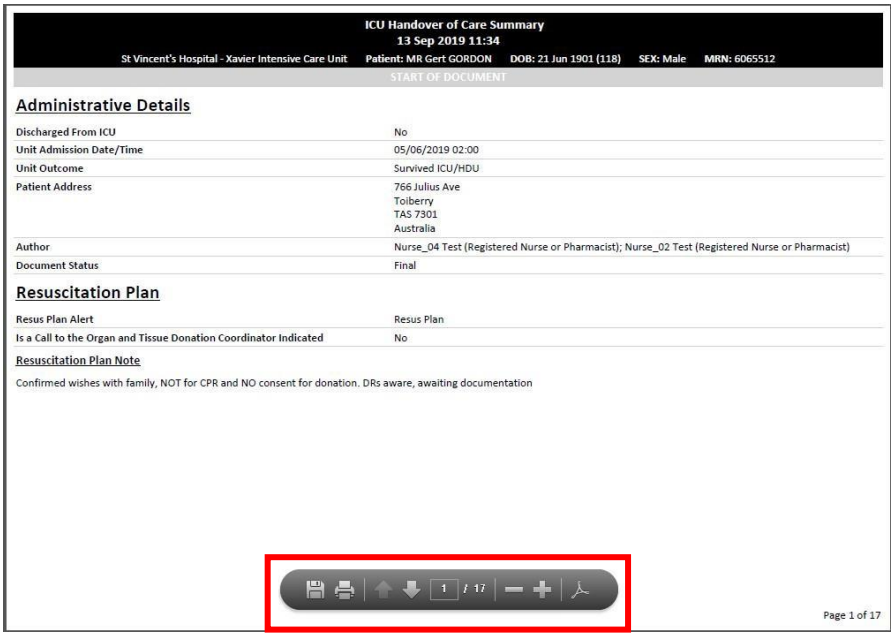


3. When you are ready to publish the eHOC. Please click Yes to the message box



4. Click on the Publish Report button and Confirm.

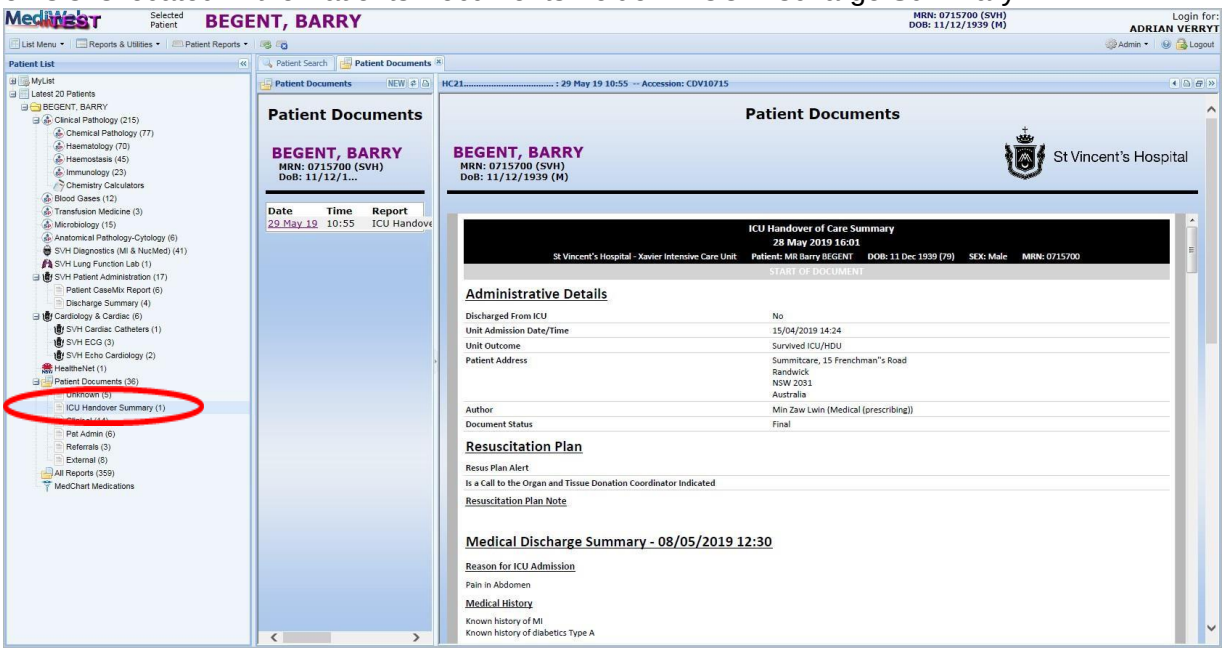
5. Print the PDF generated if required for the wards



Location of eHOC in Mediweb

Click on the patient file row in Web DeLacy. Click the Results (MediWeb) Tab from the Patient Menu.

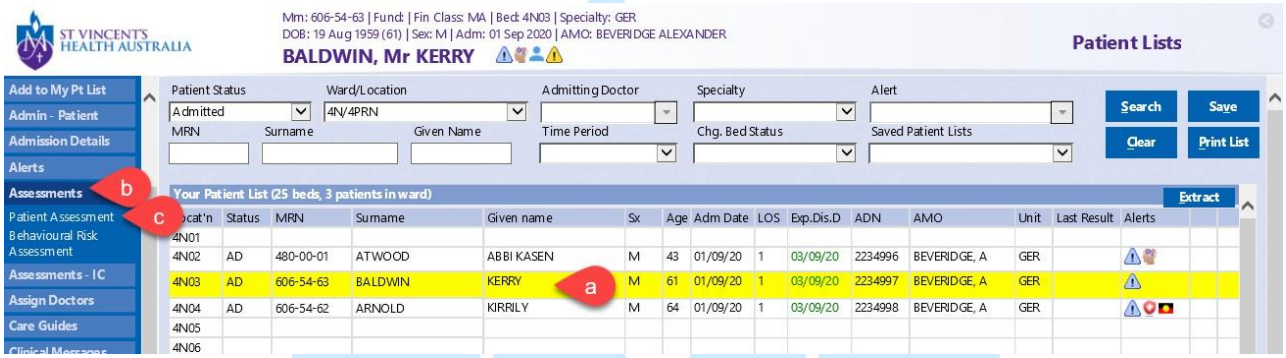
eHOC is located in the Patients Documents Folder – ICU Discharge Summary



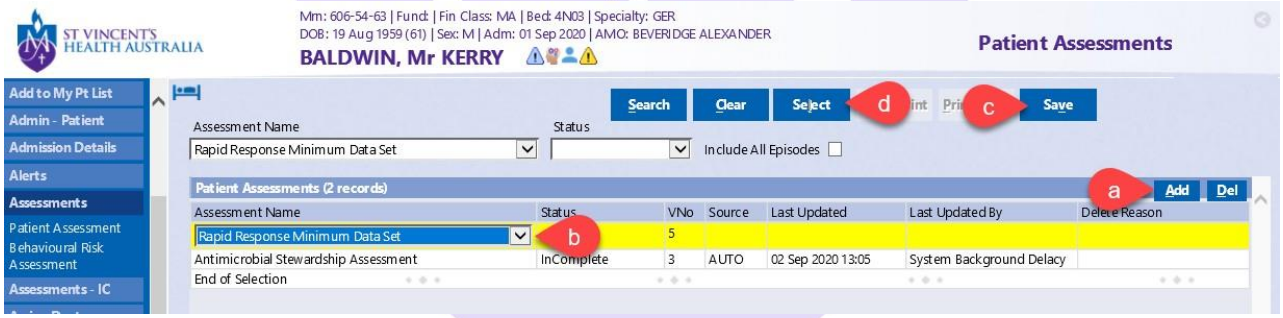
Appendix 4 – Rapid Response deLacy Quick Guide

Web deLacy Quick Guide
Rapid Response Minimum Data Set

1. Click to select your patient from the Web deLacy Patient Lists home screen, then open the **Patient Assessments** module

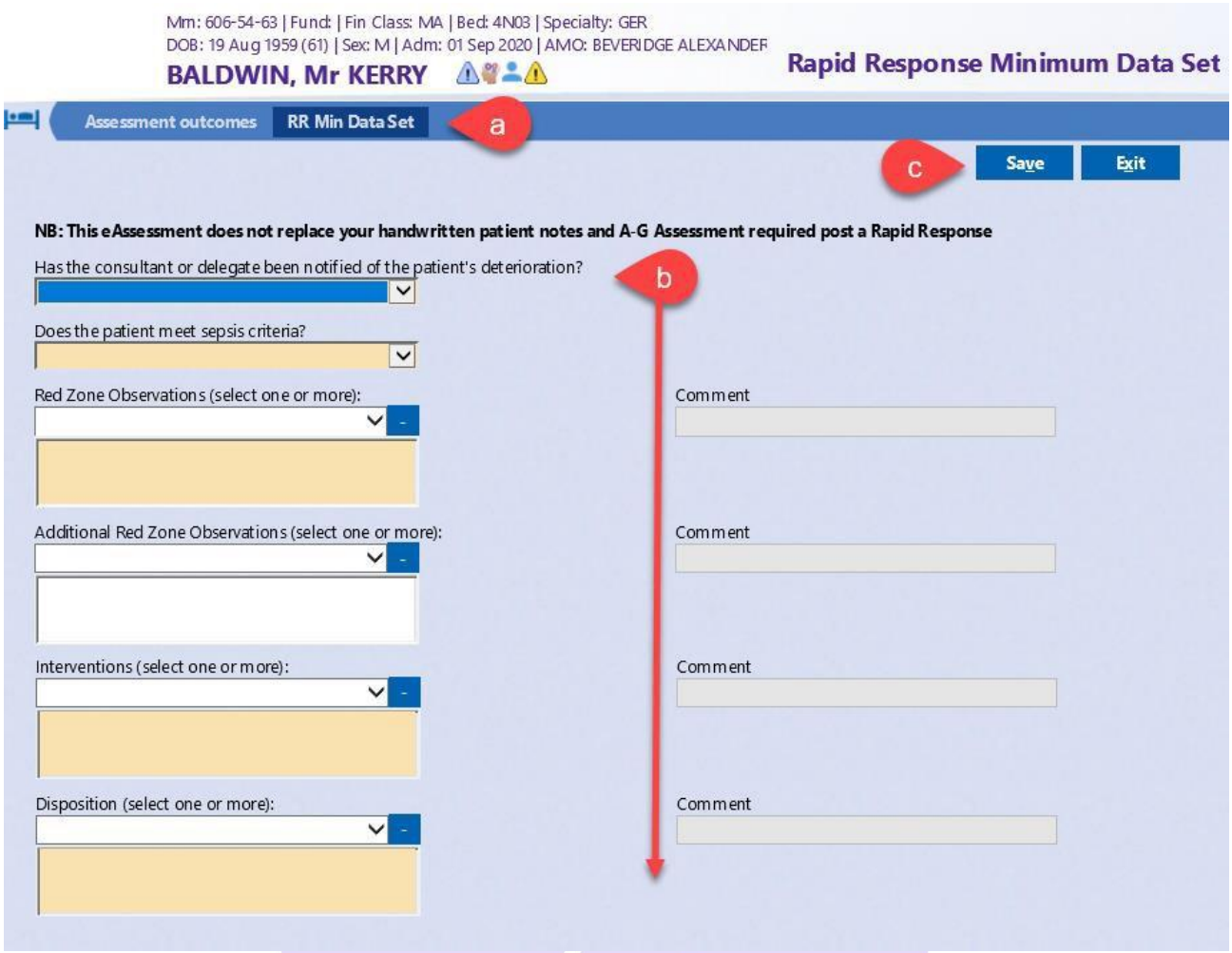


2. Click **Add** to create a new row in the Assessments grid. Use the **Assessment Name** dropdown menu in the new row before selecting the **Rapid Response Minimum Data Set** assessment. Click **Save** to finalise adding this 'Outstanding' blank Rapid Response Minimum Data Set Ax to the pt's record. Click to highlight this assessment row again then click **Select** to open.



3. Navigate to the RR Min Data Set tab

4. Navigate to the RR Min Data Set tab and complete all fields before clicking **Save.** Check that you are saving this Assessment as 'Complete' and not 'Incomplete' or 'Outstanding' in order to ensure any data triggers, gare guides or alerts are fired appropriately for your patient.



NB:

- *Complete a comment in adjacent field wherever > appears*
- ***This Web deLacy Assessment form DOES NOT replace an A-G Assessment and management plan documented in the clinical notes***
- *All fields in the first column allow for multiple selections, ensure all appropriate items are included in each field*
- *All orange fields are mandatory and the Assessment won't save as 'Complete' (data will not count towards dashboard or hospital statistics) unless all mandatory fields are completed*

Appendix 5 – Clinical Handover of Patients at Risk of deterioration policy

The following is the link to the SVH Clinical Handover of Patients at Risk of Deterioration After Hours: SVH Clinical Handover policy