Appendix 1J
Unit Orientation
Rosella/PICU
PICU Experienced Staff Member

Nursing Competency Workbook, 5th Edition
Unit Profile

The RCH Paediatric Intensive Care Service provides intensive care for approximately 1400 critically ill newborns, infants, and older children each year. With 19 open patient beds, care in the RCH Rosella Ward (PICU) is provided by the intensive care team which consists of the duty consultants, registrars, nurse consultants, paediatric critical care clinical nurse specialists, registered nurses, technologists and clinical support services. RCH PICU attracts medical and nursing staff from all around Australia, and from a large number of major international paediatric centres.

RCH PICU is the home of the Victorian Paediatric Emergency Transport Service (PETS). This 24-hour service, staffed by PICU medical team members and PICU clinical nurse specialists, provides consultation (approximately 1000 calls in 2011) and emergency air and road retrievals (approximately 440 retrievals in 2011) to RCH of critically unwell children and young adults annually, from hospitals in Victoria, Tasmania and southern New South Wales. RCH is the Victorian centre for paediatric trauma, burns, cardiac surgery and liver transplantation; and a national centre for cardiac transplantation, and intestinal transplantation. RCH also provides the largest paediatric Extracorporeal Life Support (ECLS) service in Australia. The hospital Medical Emergency Team is also staffed from PICU, with colleagues from the Emergency department.

Unit Philosophy

The PICU team aims to provide the best care possible for the seriously ill child and their family from pre-admission, admission through to transfer to the ward environment. The unit strives to improve knowledge and provide best practice in the care of critically ill children through medical and nursing research, unit based educational programs, and advocacy for patients.

Patient Groups

The patient profile ranges from infants to adolescents with a significant number of children with cardiac conditions from Victoria, interstate and overseas. Patients are also admitted with respiratory, neurological and other complex needs, including some children preparing for home ventilation and others who are being cared for following heart, liver or bowel transplantation.

Critically ill infants and children

Approximately 10-20 % of our admissions each year are children with respiratory disease and 10% with neurological disease. In addition, <10% of admissions are children and young adults with injury or severe trauma, for example after motor vehicle accidents or burns.

Cardiac

Approximately 45 – 55% of our patients are admitted to RCH PICU after cardiac surgery. These include newborns, and older infants and children requiring corrective, or palliative cardiac surgery, and heart transplantation. RCH has the largest cardiac surgical programme in Australia, and performs many complex operations.

Extracorporeal Life Support (ECLS)

RCH PICU houses the Extracorporeal Life Support (ECLS) service. ECLS provides cardiac and respiratory support for 40-50 children each year from all over Australia. ECLS is
provided to children after cardiac surgery, to newborns with severe respiratory problems, and to children with life-threatening cardiac or respiratory disease. The National Ventricular Assist Device (VAD) service provides mechanical support for children with severe, end-stage heart failure, while they are awaiting heart transplantation.

The Nursing Team

Nursing care is provided with a child and family centred focus by a team of motivated and enthusiastic nurses who usually provide care on a one to one basis. The unit has approximately 140 nursing staff with many holding, or working towards a postgraduate qualification in paediatric intensive care nursing. Clinical nurses are well supported with a dedicated team of managers, educators and facilitators.

Advanced nursing roles which exist for nurses to progress their career toward include the Liaison Nurse, Care Manager, the ECMO Nurse specialist and the PETS Nurse.

In PICU there are 4 nursing teams (RED, BLUE, YELLOW, GREEN). Belonging to a team enables nurses to work together more effectively to achieve common goals in caring for patients. Each team is led by an Associate Unit Manager, and all team members participate in 2 allocated group Study Days each year. The nurses continued development is overseen within this allocated team.

Unit Management team leaders

Unit Manager: Mel Culka

Associate Unit Managers: Michelle Dalton
Ash Doherty
Aleks Milojevic
Karen Moran
Celia White
Jackie Williams

Unit Education team leaders

Nurse Educators: Gabrielle Carroll
Jo McKittrick
Kim Morris

Nurse Facilitators: Isabelle Legrigore (Maternity Leave-(ML))
Jenny Lewis
Tarryn Spencer (ML)
Kathy Potten
Sarah Duncanson
Grace Larson
Orientation Process – PICU experienced staff member

The Paediatric Intensive Care Unit provides experienced staff with a general unit orientation day, followed by a 2 week supernumerary period working with allocated preceptors. Nurses will receive a competency framework package containing Paediatric Intensive Care Unit Specialty Clinical Competencies in addition to general paediatric competencies. These can be used to guide learning and standards of practice. Additional supernumerary time allows for undertaking competencies, allocation of appropriate study days as well as up-skilling days working with preceptors. By 10 weeks the nurse will have completed the required mandatory hospital competencies and will be progressing through the PICU competencies.

Additional negotiated learning between the preceptors and the new staff member will depend on the previous experience of the preceptee.

Objectives for the Preceptorship Period

At the completion of the period of preceptorship, the new staff member will:

- Know the layout of the unit, and most of the staff and personal working in the unit.
- Know who, what, when and where to seek resources if necessary.
- Provide safe and appropriate nursing care to patients in an organised manner
- Demonstrate ability to recognise and react appropriately in patient’s changing conditions.
- Have a good understanding of the monitoring and other equipment.
- Have a basic understanding of ventilators used in this unit.
- Complete own objectives, and required hospital and PICU competencies.
- Demonstrate effective communication skills with staff, patients and their families.
- Demonstrate the ability to work in a team.

The rights and responsibilities of the Preceptee:

- Communicate existing experiences, knowledge and skills.
- Negotiate with the preceptors to identify learning needs, and set objectives which are realistic and beneficial to his/her professional development and clinical practice in the PICU environment.
- Undertake self evaluation at regular intervals with the preceptors to work up strategies for further development.
- Provide feedback to the preceptors on the preceptorship process, including support given and teaching methods.
- Be responsible for completion of the required competencies. These competencies will be considered when the clinical appraisal is completed.
- With the help of preceptors, identify and utilise other resources to provide safe nursing care.

The rights and responsibilities of the Preceptor

Preceptors have an important role in supporting and facilitating new staff into the environment. They act as a role model and provide resources to enable new staff to develop the required skills and knowledge.

- The introduction of new registered nurses to other members of the staff.
- Planning of learning with the new nurse based on their previous experience.
- Facilitating learning and the acquisition of new skills and knowledge.
• Providing ongoing verbal evaluation and feedback.
• Providing opportunities to discuss strategies for future development.

Performance Evaluation
All staff must initiate their own performance appraisal after 3 months and annually thereafter. Discuss strategies with CNE/F’s and AUMs related to your professional development, ACPIC course objectives and competencies. The 3 month appraisal should be completed by the Nurse Unit Manager.

Nursing Education in PICU
The aim of nursing education in the PICU is to promote and support nurses in providing excellence in their nursing care. PICU Nursing education is aimed at staff development and updating knowledge and skills to influence and improve our clinical practice in the unit. Unit based educational activities are displayed on the Education Planner Calendar in the seminar room. Up to five-paid study days are available per year on consultation with the Unit Manager. An on-line leave (study) application form must be submitted and approved by the NUM prior to making a roster request.

Ongoing Education in PICU
The ongoing professional development of the PICU nurses is supported with a variety of opportunities.

Team study days
The PICU Nursing group is made up of 4 teams. Each nurse belongs to one of these teams and attends 2 Team Study Days over the year. The team plans this day according to their learning needs.

This day is co-ordinated by an AUM and other team members. An educator or facilitator-belong to the team as a participant and to contribute educational principles.

In-service sessions
The unit has a monthly education theme and conducts in-service education 6 x per week on Monday and Thursday at 1430hrs, Friday 1430 and 2110, Saturday or Sunday at 1430hrs and Tuesday at 2110. The session is repeated over the week to enable maximum attendance. These in-services include sessions with scenario training (Tuesday at 1100hrs), updates on new technology (Friday 1430), nursing care guidelines, and clinical tutorials.

Specialist Study days
Study days with a specialist topic are conducted throughout the year. Training opportunities include Haemofiltration, Team Support Nurse (TSN), Paediatric Retrieval Nursing (PETS), Aeromedical, External Ventricular Assist Devices, and Extracorporeal Membrane Oxygenation (ECMO). These programs are completed in preparation for becoming a specialist in Emergency Retrieval or Extracorporeal Membrane Oxygenation for example, which are advanced practice roles.

Conference Participation
The PICU Nursing team also encourages active participation in the Child Health (ACPCHN) and the Australian College of Critical Care Nurses (ACCCN) professional organisations. Participating nurses are supported to attend and present at these annual national conferences.
Other Education opportunities at RCH

Offered through the Nursing Education Department, located in the RCH Health Education and Learning Precinct (HELP), Level 1, West Building, are various educational programs which are also available to PICU nurses. These include Preceptorship, the Paediatric Foundation Program (an introduction to paediatrics), and Assessment of the Deteriorating Child Workshop.

Available on the hospital website is specific department learning packages and useful information to help with your ongoing education. During your orientation ask a CNF to spend some time on the computer. Most relevant to PICU are:

- Anaesthesia and pain team service
- RCH Nursing Education Calendar
- Cardiology home page
- Clinical Practice Guidelines

Professional Practice Portfolios

All nurses are required to have an individual Professional Practice Portfolio (PPP). PPP’s enable the nurse to provide formal evidence of ongoing professional development and promote accountability in nursing practice. The PPP is an appropriate tool to develop learning goals and provide tangible evidence of learning.

The performance appraisal process in the PICU is linked to the nurse providing a PPP, which should be presented with your annual appraisal.

The PPP also assists you to be well placed to meet the registration procedures with the National Registration Board, which requires nurses to provide evidence of their Continued Professional Development.

It is recommended that a PPP be compiled in a folder and can contain sections which have evidence of your learning and professional development. For examples of the evidence you may use, and to further assist you in constructing your portfolio, the Professional Practice Portfolio Guidelines Version 2 can be downloaded from the RCH Nursing Website:

http://www.rch.org.au/nursing/

Unit Policies

Drug administration

- All IV drugs are double-checked by two RNs
- Single checking of oral drugs is allowed according to hospital policy, but nurses may still double check oral drugs if preferred

Intravenous Infusions

- All drug syringes are changed every 24 hours, except for pressure line syringes which are changed as necessary or every 72 hours.
- All lines are changed every 72 hours
Medical Round
The PICU has two Consultant Teams on for the unit each day. One team is for the General Patients and the other is for the Cardiac Patients. Therefore there are two consultants on during the day and one overnight. The registrars are also allocated to either team and then allocated to the appropriate patients for the shift. Their names are on the room/patient allocation board in the fishbowl.

In the mornings the Hospital Cardiac Round comes to PICU at 0815. Subsequently the 2 PICU teams conduct Medical Rounds simultaneously commencing at 0830. Ideally the nurse caring for the patient is present when that patient is discussed, so tea breaks are timed to enable this. The nurse presents the patient to the Medical Round and also has the opportunity to raise relevant patient care issues which require discussion. The plan for the day is then documented and signed by medical staff on the PICU medical orders, which should also be acknowledged and signed each shift by the patient nurse.

On Monday’s and Friday’s the Medical Round may be conducted in the Seminar Room, and when this occurs the nurse does not present the patient. The evening Medical Round is held at 2000 hrs and does not require the nurse to present the patient, but provides an opportunity for the nurse to discuss the patient with the team. After the Medical Rounds are completed registrars then commence working with the patients. The General Consultant is responsible overall for the co-ordination of admissions, transfers, PETS referrals and MET calls.

Nurse Presentation of Patient at Medical Round
This presentation is to be brief. An overview of the patient is provided and then any relevant issues are raised. This information transfer format is:

1. Patient diagnosis and relevant history
2. Patient condition what has happened overnight
3. Where we are up to with weaning, feeding, progress etc
4. Relevant issues needing highlighting, including social issues

Prompts of Potential Issues to Raise

Haemodynamic Stability
- Rhythm & Pacing
- Filling pressures
- Volume
- Temperature

Ventilation & Gasses
- Mode and FiO2
- ETT position / C-Xray

Family issues

Sedation & Pain Management
- Infusions
- Pupils
Nutrition – Feeding

Fluid & Electrolytes
- Lactate
- Na, Ca, Mg,
- Glucose
- Urine / balance / losses

Antibiotics

Nursing Handover

Nurses arriving on duty go to the Seminar Room to receive their patient allocation. Patients are preallocated by the AUM on the preceding shift. The nurse can negotiate patient allocations in advance with the AUM team.

The nursing team on for the shift receives an overview of the unit status and a Trendcare Handover sheet. The nurses then proceed to the allocated room for handover. If there is a patient in the adjoining room, nurses give a patient overview (current stability status and current main issues) to their colleague.

Team work

Teamwork is imperative for the well being of the child and family and the nursing staff in the unit. Please plan your day of work and breaks according to the needs of your patient whilst considering the work load in the adjoining room. Plan your day early in the shift and consult early with your pod TSN if you will need break relief, or anticipate a procedure, patient transport or need for extra support.

Resource Persons for Support

Each shift has various support persons available to assist nurses providing clinical care. Each pod has a Team Support Nurse (TSN). A Clinical Nurse Facilitator (CNF) is also rostered on Monday to Friday (am & pm shifts) and weekends 1000-1830. Additionally, on day shift (0800-2200) a clinical technologist is on duty. A PICU liaison nurse, Care Manager, ECMO Co-ordinators, and Clinical Nurse Consultant are also available. During office hours the Nurse Unit Manager and Clinical Nurse Educator are on duty and can be contacted to assist with Management and Education.

Team Support Nurse

To provide clinical support and leadership, the unit has two Team Support Nurse’s (TSN) on every shift who are available to assist individual nurses in caring for patients. There is a TSN allocated to each pod. The TSN’s are also available for communicating significant changes in patient’s conditions. The AUM and TSN’s must be kept up to date with the patient's status. This will enable the leadership team on for the shift to assess the situation, and balance the support resources available in the unit. The TSN’s are also responsible for assisting in resuscitations in PICU, responding to hospital MET calls, patient transfers to CT/MRI, setting up and assisting with new patient admissions, equipment safety checks and required break reliefs.
Clinical Nurse Facilitator

The nurses’ learning and development is supported on most day shifts (0700-2200) by a Clinical Nurse Facilitator (CNF). The duty CNF can be contacted via ascom phone ext: 52308. The name of the CNF available for the shift and the page number are also updated daily on the whiteboard in the fishbowl and patient room. The nurse can seek the CNF’s guidance and support in clinical care at the bedside. In negotiation with the nurse, the CNF will facilitate opportunities for individual clinical development and advancing nursing practice within the unit.

Patient Nursing Notes Record

At the completion of each shift nursing notes are written in the patient history. The PICU Management Plan is updated each shift with information such as line changes, line removal, line insertion and significant events or procedures.

Ventilation Practices

The medical staff are responsible for ventilation settings, and ventilation changes are made in consultation based on their orders. Contingency orders are written daily to set the appropriate ranges that ventilation changes can be made within by the nurse caring for the patient.

Ventilation and alarm settings should be checked by the nurse at the start of every shift and adjusted as clinically indicated. The required alarm settings are:

<table>
<thead>
<tr>
<th>Alarm Type</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Minute Volume</td>
<td>20% below the patient’s current level</td>
</tr>
<tr>
<td>High Tidal Volume</td>
<td>No greater than 2 x the patient’s current level</td>
</tr>
<tr>
<td>Low Peak Pressure</td>
<td>2 - 3cmH2O below required Peak Inspiratory Pressure</td>
</tr>
<tr>
<td>High Peak Pressure</td>
<td>10cmH2O above the required Peak Inspiratory Pressure</td>
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Ventilator circuits, hand ventilation circuits and suction units are changed every 7 days by nursing staff and are labelled with the date and time.

Physiotherapy Practices

The nurse stays with the patient at all times during physiotherapy. This ensures that the child is adequately ventilated, oxygenated, haemodynamically stable and all invasive lines and tubes are intact during physiotherapy.

Physiotherapy or suctioning procedures should be ceased immediately if the child desaturates or is haemodynamically unstable. The procedure should only be resumed if the child recovers quickly. Please consult the registrar, consultant or the AUM if you are concerned.
Clinical Incidents

VHIMS is the hospital incident reporting system which is used to capture potential and actual incidents with staff and patients. VHIMS forms can be filled in on line by going to the RCH homepage and clicking on VHIMS. On line (http://riskman) reporting through VHIMS is to review our work practices and work environment so that optimal care is provided. The intention with managing clinical incidents is not to proportion blame. The VHIMS system allows staff to fulfil their responsibility to prevent, report and enable management of clinical risks.

Assisting Breastfeeding Mothers in PICU

The RCH is committed to supporting and encouraging breast feeding. The benefits of breastfeeding and providing the sick infant with expressed breast milk (EBM) are well known. PICU staff are expected be able to support the mother of an infant establish and maintain her breast milk supply. Please seek the assistance or support of a CNE/CNF or a RCH lactation consultant if required.

Rosella (PICU) and Koala ward provide a shared expressing room, with two pumps for mothers who wish to retreat. Alternatively, PICU has three pumps in our formula room. These pumps may be taken to the bedside, but must be returned immediately after each use. On admission, and each day thereafter as the bedside nurse it is your responsibility to provide the mother with a disposable breast shield. This can be used for 24hrs, during which time it is washed and cleaned in between uses. All shields given out must be recorded in the bright pink book that is kept with the shields. Please ask the TSN for assistance if necessary.

When you give the mother the breast shields, please also provide a copy of the information pamphlet and written information re. Expressing and Care of Breast Milk and the Shields.

Please ensure you know how to use the breast pumps in order to orientate new mothers.

Supports available for breast feeding mothers:

- Lunch & dinner is provided for all breastfeeding mothers of infants under the age of 2 yrs.
- Assistance from RCH Postnatal mother’s unit PMU midwife, pager 6659
- The formula room is located on level B2 in the north building. Staff here will store frozen breast milk for mother’s (up to 10 bottles). The TSN will organise CARPS to take milk down daily for freezing

On admission of a new patient who is breastfeeding:

- Ask TSN to allocate breast shield
- Give shield with expressing information to mother
- Discuss expressing and care of the breast shield with mother

Expressed Breast Milk (EBM) is always checked by two nurses prior to use, ensuring correct patient name, id number, date expressed, date expires, date thawed.

Expressing

- Express 6 – 8 times a day
- Express no longer than 5 hours apart
- Express about 10-15 mins on each breast
**Labelling Breast milk**
- Express into green capped bottles only
- Use chinagraph pencil to write surname directly onto bottle
- Place UR sticker on back of label
- Fill in green EBM label provided on bottles
  - Full name
  - Rosella/PICU
  - Date expressing
  - Time of first expression

The same bottle can be used for multiple expressions **provided it is on the same day**.

**Storage of breast milk**
- Due to frequent access of the PICU fridge EBM can only be kept for 48hrs
- EBM can be kept for 48 - 72hrs in own fridge at home
- Mothers should be responsible for ensuring milk is labelled appropriately and put into the fridge or freezer until CARPS job logged for transport to the formula room
- Thawed milk will last for 24 hrs from the time it is removed from the freezer provided it is thawed in the fridge
- Thawed milk in hot water can be used for immediate feed only

**Care of breast shield**
- Care of shield info stapled inside expressing pamphlet and written info
- Mothers use one disposable shield per day (or a newly sterilized non disposable shield)
- Shields must be washed and dried after each use
  - Rinse in cold water
  - Wash in hot soapy water
  - Allow to dry
  - Place back in plastic bag provided

**Basic help for mothers**
- For decreased supply encourage mothers to spend time with their baby before expressing, think about or look at photo of baby while expressing. Express 3 hrly.
- When milk “comes in” and breasts are full and sore, use warm pack on breast or shower 10 mins before to help express milk. Gently massage out lumps while expressing. Apply cold pack or face washers on breast 5 – 10 mins after expressing for comfort

Refer to Postnatal Mothers Unit (PMU) Midwife for further help: pager 6659
Neonatal Screening

All newborn infants are screened for Congenital Hypothyroidism, Cystic Fibrosis and Phenylketonuria. Neonatal admission packs are kept in the fishbowl.

Special Considerations:

Timing:

a) For all infants a sample should be taken between 48-120 hours of age.
b) If a baby is discharged prior to 48 hours of age, take a sample then, and arrange to have a second sample collected in about 2 weeks.
c) ELBW/premature infants should also have a second sample taken at 4 weeks.
d) Exchange transfusions and top up transfusions will invalidate the screening test, so either collect a sample prior to transfusion or take a sample at around 2 weeks after.

Things that do not affect test results:

- Nil by mouth
- Antibiotics
- Jaundice

Things that do affect test results:

- Exchange transfusions/transfusions
- TPN
- Faecal contamination
- Using blood that has been in contact with blood tubes containing EDTA or citrate

Collect sample, air dry without the use of heat, place in hospital internal mail envelope and send via internal mail to the newborn screening laboratory RCH. Record sample date in Child health record book and Medical records.

Facilities for Families

Interpreter Services

The Interpreter & NESB Services Department provides the patients and families of non-English speaking background (NESB) with interpreting services so that the same quality of service is afforded to these families as to all other patients and their families. The nurse caring for the patient has a responsibility to initiate the use of an interpreter when ever a family requires communication. Other families and staff should not be used as interpreters.

All enquires and requests for an interpreter should be directed to the interpreter service, extension 55026 or 55998.

8.30 am - 5.00 pm Monday - Friday

Outside of the above mentioned hours all requests should go via the Switchboard. Switchboard staff will make arrangements if an interpreter is required on the phone. If an interpreter is required to attend in person, they will contact the Director of the services, who will be responsible for authorising the service and making the appropriate arrangements.
All interpreters attending the hospital must wear an identification badge. In the cases where a badge is not being worn, they should be asked to produce it or to page the Director of Interpreting to identify them. This practice is very important to control the comings and goings of outsiders, in regards to confidentiality and security. See online site: http://www.rch.org.au/interpreter/index

Meeting room
The meeting rooms in the unit are used for discussions with the parents, and at times are used for the families of a dying child or an emergency admission. Please check with an AUM before using a meeting room.

Parent Accommodation
The hospital has some parent accommodation facilities. There are a total of 45 rooms at Ronald McDonald House in Gatehouse St. Priority is given to the breast-feeding mothers whose babies are 3 months old or less and families from the country. There are also six emergency overnight accommodation rooms on the second floor north building near Sugar Glider, which are to be prioritised for PICU/NNU families to stay for up to 48 hours. They, as well as normal parent accommodation are to be managed by Ronald McDonald House and anyone can refer a family on x 56300 (24 hours a day). The AUM or the social worker may be utilised to help arrange parent accommodation.

Parent Lounge
Also available for the PICU families are the parent lounge and kitchen outside the Rosella and Koala ward entrance.

Post-Natal Mothers Unit (PNMU)
The PNMU is located on the second floor in the north building and has the capacity to accommodate 4 couples. Most admissions are arranged between the referring unit and the NNU AUM. On occasions where it is not pre-arranged the bedside nurse can arrange this through the AUM and the NNU AUM.

Patients of the PNMU will be mothers of babies admitted to the NNU or ICU in the first seven days of life. The mother must be ambulant without pre-existing complications. They must be independent of constant medical and nursing care and be discharged from the referring hospital. The partner or a member of the family will need to stay with the mother if she requires wheel chair transport. There is a RCH midwife employed Monday to Friday in the PNMU.

Sibling Care
The hospital has limited facilities for sibling care. The sibling crèche is located on the lower ground floor in the west building and opens in January 2012. Siblings may be placed in the sibling care crèche (space permitting) between:

0900-1500 Monday - Friday

Please ask the ward clerk to arrange for the care if required
The RCH School with teachers and the Starlight Express room is also available for siblings.

Family Resource & Respite Centre
The Family Resource & Respite Centre is a non-clinical area of the hospital (on the ground floor, north building) provided for families and caregivers of inpatients and
outpatients. It provides a quiet, friendly, relaxing area for families within the hospital, but away from the busy noise and stress of the hospital environment. At the Family Resource & Respite Centre parents and caregivers can prepare a snack, have a cuppa, access computer and audiovisual resources and information, take a shower, have a nap in the quiet room, use a phone recharger or just go in and enjoy some time out. See online: [http://www.rch.org.au/frc/index](http://www.rch.org.au/frc/index)

**Visiting hours for Families**

It is preferable for space and patient safety reasons that there are no more than 2 visitors at any time in a room. Please use your own discretion regarding this and try to send a consistent message to families. There are no restrictions on visiting hours, except during admissions, procedures or emergencies. Relatives and friends can visit with parent permission, and this is best done when parents are present. No information is given out to any one except parents.

Visitors and parents must ring the doorbell prior to entering PICU, in case a procedure is taking place in the room. When letting parents into the unit, the ward clerk will ring the room first if the parents are coming into the unit. If it is not an appropriate time for the parents to come in then the ward clerk will ask the family to wait in the family waiting room or the interview rooms if it will be a short wait.

The PICU direct telephone number is given to the **parents only**. Please ensure parents are given the handout “Information for Parents of Children in the Paediatric ICU” which is available at the central desk.

A parent may stay at the bedside overnight, but please ensure that they have their bedding and bed packed away by 0800. If a parent wishes to stay, lighting and alarm levels must still be maintained at appropriate levels to ensure safe patient care. Parents are encouraged to take breaks for meals and sleep, to support their wellbeing. Ensure you have a documented contact number for the parents when they are not in the unit. In addition please reinforce a consistent message to parents related to the following points

- Mobile phones should be silent or off
- Cold drinks should be in bottles or covered cups, cold food is also ok but should be cleaned up once done and stored only in the kitchen area
- No hot drinks or food in the patient rooms
- No food if the patient is fasting

**Communication**

The following is a guideline to some of the more formal avenues of communication within the unit.

**Personal Mail**

Any personal mail is posted in the alphabetical shelves in the staff tearoom. Personal messages are displayed on the corkboard in the tearoom.

**Email Communication**
An RCH Email address will automatically be generated for all staff members by HR, and ready to access on employment commencement. This is an important means of communication within the PICU and hospital.

Paging System

There are 3 methods to page personnel:
- Computer page through the Lanpage on all desktops (check pager number through computer, can leave a text message)
- Contact switch on 91 and ask for the person to be paged
- If the person you want to page does not have a beeper, a voice page can be made

Ascom phones

In addition to the landline in each room and ward spaces, each room has been allocated an ascom phone. The phone extension for each room is the room number, preceeded by 52, for example PICU room 345 is ext 52345. These phones cannot be direct dialled externally. It is also possible to send a text message via ascom phone using the number/letter keys on the phone, or more easily via the lanpage system, just enter 20 followed by ascom phone number into the pager number field and enter your message. The AUM, TSN’s, CNC, CNE’s, CNF, care manager, PICU liaison and medical staff also carry allocated ascom phones.

Duty Hours

Full time employees doing 8-hour shifts & 10-hour nights:
07:00 – 15:30   13:30 – 22:00   21:00 – 07:30

Employees doing 12-hour shifts:
07:00 – 19:30   19:00 – 07:00

Meal Breaks

There are 3 meal breaks for a 12-hour shift. Eight hour shifts have 2 breaks, 15 minutes for coffee/tea and 30 minutes for lunch or dinner. There are 2 30-minute breaks for the 10 hour night shift. When leaving for breaks the allocated patient is briefly handed over to the nurse in the adjoining room or a relieving nurse to ensure that the patient is observed at all times. Always ensure all alarms are set appropriately. Please ensure that meal breaks are completed by 1400hrs on education days to maximise potential attendance.

Rostering

The roster is completed in 8 week blocks and will be posted at the 6 week mark of the current roster; therefore all roster requests need to be emailed to the PICU roster requests email by the end of week 1 of each current roster. A reminder email will be sent out.

The email for roster requests is picu.requests@rch.org.au

Please email your roster preferences. On your orientation day you will be given an RCH Nursing Roster Form. Please include fixed commitments, study commitments, approved study leave and job share arrangements. Roster requests also are appropriate for other needs such as sporting and lifestyle events. Please limit your roster requests to 5 specific requests in any one roster period. The roster team will endeavour to meet your fixed

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commitments on every roster but please understand that on occasions not every request can be granted. If we cannot meet your requests please attempt to swap your shift with a colleague within the same skill category.

If you have an issue with your newly posted roster or if a request was unable to be granted the following process should be undertaken in a professional manner.

- Speak with your duty AUM who may also see a solution in the roster.
- Speak to or email Mel Culka to see if there is a possible solution. An oversight or transcription error may have occurred.

It is the expectation that all staff will participate in night duty; otherwise some must carry a larger load for others.

**Full Time 12 Hour Staff**

There are three options:

1) Work one month of days followed by one month of nights
2) Work two weeks of days followed by two weeks of nights
3) Work a combination of days and nights in a fortnight

Alternate ADO’s and 8-hour shifts will be allocated according to the particularly fortnight. ADO’s must be taken they cannot be accrued.

**Full Time 8 Hour Staff**

Staff work a 10-week rotation of 7 weeks days and 3 weeks of nights. An ADO is allocated.

<table>
<thead>
<tr>
<th>If you work these hours <strong>Per Fortnight</strong></th>
<th>You must work these hours <strong>Per 3 Week night duty rotation</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>76 hours or 8 shifts</td>
<td>114 hours or 12 shifts</td>
</tr>
<tr>
<td>68.4 hours or 9 shifts</td>
<td>1104.5 or 11 shifts</td>
</tr>
<tr>
<td>60.8 hours or 8 shifts</td>
<td>95 hours or 10 shifts</td>
</tr>
<tr>
<td>53.2 hours or 7 shifts</td>
<td>85.8 hours or 9 shifts</td>
</tr>
<tr>
<td>45.6 hours or 6 shifts</td>
<td>76 hours or 8 shifts</td>
</tr>
<tr>
<td>38 hours or 5 shifts</td>
<td>66.5 hours or 7 shifts</td>
</tr>
<tr>
<td>30.4 hours or 4 shifts</td>
<td>47.5 hours or 5 shifts</td>
</tr>
</tbody>
</table>

**Part time Staff (both 12 Hour and 8 Hour)**

The same rotation or combination applies as the full time staff however less hours are worked.
Internal emergencies in PICU

To ensure that enough resources are available to respond to an internal PICU emergency call button, in addition to the TSN’s, two emergency responders will be allocated at the commencement of the shift. Emergency responders will be required to undertake a role such as scribing or drawing up drugs in the event of an arrest. Please be familiar with roles at the start of the shift. Emergency role cards which have role cues on the reverse side can be found in each pod by the WIP phone and will be handed out by the AUM in the event of an emergency. Please ensure that you handover your emergency responder responsibility if you are going to a break or will be unable to attend for another reason.

PICU staff CPR Roles

- Pt RN
- Pt Registrar
- AUM
- Drugs (Emergency Responder 1)
- Scribe (Emergency Responder 2)
- Fluid and Drug administration (TSN 1)
- Consultant/Leader

Chest Opening / Going onto ECMO Roles

- Scout (TSN 2)
- Call back (allocated by AUM)
- External RN (allocated by AUM)
- ECMO CNC/Perfusionist (allocated by AUM)
- Scrub (in hours cardiac nurse, out of hours - IC theatre nurse/PICU allocated RN)
- Cardiac Surgeon
- Cardiac fellow
- Perfusionist

Calling in the Cardiac Team to PICU for Chest Opening/Cardiac Arrest

1) Call switchboard by dialling 777
2) State Cardiac Arrest in Rosella/PICU, room xxx, Cardiac surgical team required
3) Switchboards will page:
   i. Cardiac Surgeon
   ii. Cardiac Surgery Fellow
   iii. Perfusionist – 1st on call
   iv. Cardiac Surgery Nurse – 1st on call
   v. Rosella consultant
   vi. IC Theatre Nurse

Switchboard will page all the above people (NB no overhead voice announcement) The cardiac call out team is expected to phone back on the PICU ward clerk’s phone (ext 5211) The AUM may divert the phone to a cascom phone and will allocate a callback receiver who will fill in the call back form, which is located with the role cards. If no response from a Team Member/s, ask switch to repage or phone them directly. Always inform the AUM the outcome of the callback.
Medical Emergency Team (MET)

For Medical or Surgical Emergency throughout the hospital
Switchboard will announce on the overhead where the MET call is:
Stating, "MET, north building, level 3, koala ward, room XXX"

A follow up announcement will be made 1 min after the first call.
The above procedure will take place regardless of time of day.

The switchboard also phones the AUM directly on the AUM ascom phone to confirm MET team deployment

The MET team consist of the ICU outreach registrar or consultant and ICU nurse, an Emergency department registrar or consultant and nurse, PICU liaison nurse and the specialties medical registrar.

PICU has two MET trolleys which are checked and maintained by the TSN’s.

PYXIS MedStation in ICU

The Pyxis MedStation is an advanced system that automates the distribution, management and control of medications. The system includes a network of secure storage units. Each unit is controlled by it’s own microprocessor and functions much like a bank’s automated teller machine. Each computerised secure storage unit communicates with the Central Console in the Pharmacy Department. There is a Pyxis unit located in both the cardiac pod and the general pod.

By entering a password and an identification number or finger print at the MedStation, authorised users obtain medications from the MedStation. Additionally, at the time of access, all transaction information (including patient name, description and quantity of medications) is automatically recorded for restacking and accounting purposes.

You will be able to gain access to Pyxis when you start working in ICU. A member of the PICU Education team will facilitate your access to Pyxis.

Identification (ID)/Password Requirements:

Identification
The standard employee ID for staff is used for the identification (ID) on the MedStation.

Password
Passwords are user defined and must be maintained in strict confidence as a unique identifier (electronic signature) for each individual. If an individual allows their password security to be breached, then they will be held responsible for any transactions taking place under their ID. The fingerprint sensor instead of the password reduces the risk of a security breach.

First Login
When you sign on to the MedStation for the first time using your valid ID (employee number), use the word ‘password’ as your initial password. You will then be prompted to change your old password (‘password’) to a new personalised password. If fingerprint password (bio i.d.) is activated, you will then be asked to place your finger over the sensor and allow the
machine to capture your fingerprint. These fingerprints are then reconfigured into an algorithm that the Pyxis MedStation identifies as being you. According to the manufacturer of Pyxis, your fingerprint is not stored in the machine once the algorithm has been generated. At no time can the algorithm be altered back into the form of a fingerprint.

**Pyxis nursing responsibilities:**

- Please return unused and unopened DDs to the Pyxis Machine, at the time it is determined that the drug will not be used.

- It is not possible to return a drug to Pyxis if the patient identity is unknown, as the drug must be logged against a specific patient.

- It isn’t acceptable to return a drug to a ‘retrieval patient’ if the identity of the original patient is unknown, as it not accurate.

- Therefore, it is SO important to return the unused/unopened drug ampoule to Pyxis as close to the removal time as possible. DO NOT LEAVE the drug unopened in the Patient’s trolley or sitting on the resus trolley.

- Please follow the instructions for returning drugs to Pyxis, either in the ‘Pyxis Quick Reference Guide’ at the machine.

- If you come across a DD ampoule of drug and you do not know the name of the patient who it was removed for, please notify the AUM. An incident form then needs to be generated by yourself or the AUM.

- It is the responsibility of all Nursing (Medical and Pharmacy) staff to ensure the responsible handling of DDs in PICU.

- In addition: If a ‘discrepancy’ is ever generated during your use of the machine (i.e., the number of expected drugs does not match the actual number in the pocket), it is YOUR responsibility to follow up i.e., let the AUM know. You must then ‘document’ the reason for and the details of the discrepancy on the Pyxis Medstation with the AUM, before you leave work the same day.

- Please ask a colleague, TSN, PETS nurse, CNF/E, AUM or Pharmacist if you require assistance at any time.

We need to exercise extreme vigilance with handling DDs in PICU. The misappropriation of DD’s has legal and professional implications for an individuals nursing registration.

**Guardrails**

Guardrails is a drug error reduction software system It has been loaded onto each infusion pump (Volumetric and Syringe) within RCH. There are different drug user profiles on the pump i.e., PICU, NICU, Anaesthetics, Cardiology and Renal, etc.

The pump profile should always agree with the unit in which the pump is being used eg a cardiac patient in ICU should be in ‘PICU’ profile, not ‘Cardiac/Renal’. Each profile has a customized library of drugs (dataset). Each drug has dosing limits applied to it based on the medication protocol of the particular area where the pump is being used. The Guardrails dataset has been created using the Frank Shann drug doses book, the RCH Pharmacopoeia.
and the RCH IV Injectibles Guidelines. Guardrails provides us with built-in safeguards at the point of care. It helps to prevent errors by incorporating dosage limits set by a doctor, nurse or pharmacist in each clinical area.

How to set up a Syringe pump with Guardrails:
Example of a Morphine infusion for a 5kg patient (ICU protocol 1mg/kg in 50 ml)
- Turn on pump
- Choose mode eg: (PICU) and “confirm”
- Choose a letter then drug (morphine, 50kg) then “ok”
- Add mg of drug (5mg) then “ok”
- Choose volume of diluent (50ml) then “ok”
- Choose weight of patient (5kg). A default weight will appear and then change to applicable weight then “ok”.
- Confirm set-up

Continued morphine drug example: Pump functions:
- You will see “normal screen set-up” with the additional units expressed
- Push “?” and change from “set by dose rate” to “set by ml/hr” (arrow will move from units to ml/hr.
- Observe the new default rate. Now change to applicable rate and corresponding applicable dose of drug (you can increase and decrease rate from the default rate)

Continued pump functions:
- Push green start button
- To change drug name or go to “ml/hr” mode, push stop.
- Push “?” the “infusion set-up” then “ok”
- Choose “ml/hr” or another drug
- Follow steps as outlined above.

Fire and Emergency Information
- Fire and smoke doors are located throughout the unit, and should remain closed
- Solid doors provide fire and smoke protection for 2 hrs
- Glass doors provide fire and smoke protection for 1 hr
- WIP phones connect you directly to the control room in the event of an emergency
- WIP phones and break glass alarms are on the walls by the gas machine in the general pod and cardiac pod, and in the same position in the flexipod
- PICU ZONE WARDEN will be the AUM in charge of the shift
- If necessary evacuate down the fire escape stairs at the end of the pods
- Evacuation mats are located in the fire hose cupboard.
- Emergency evacuation boxes, oxygen and Laerdal bags are located in the cupboard in each room
- Please follow directions from the zone warden in the event of an emergency
- YOU can call a code, Dial 777 and report your code to switch (let zone warden know)
- Each year we have Mock Evacuations to test ourselves and our readiness. You may be asked to take part
- It is a hospital requirement that all hospital personal must complete a yearly Emergency Procedures Quiz online (http://www.rch.org.au/emerg_proc/index)
- Maureen Scoble (CNS) is the emergency/evacuation and code brown resource person, and is very willing to help and answer questions regarding emergency procedures.
Common Drugs Used in ICU

The following is a list of drugs that are commonly used in ICU. It is the responsibility of every nurse to become familiar with these drugs, i.e., mode of action, usual dosages, side effects and the nursing implications. Resources are readily available for information.

<table>
<thead>
<tr>
<th><strong>Analgesic</strong></th>
<th><strong>Immunosuppressants</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>Cyclosporin</td>
</tr>
<tr>
<td>Codeine</td>
<td>Azathioprine</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>Methylprednisolone</td>
</tr>
<tr>
<td></td>
<td>Hydrocortisone</td>
</tr>
<tr>
<td></td>
<td>Tacrolimus</td>
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</tbody>
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<table>
<thead>
<tr>
<th><strong>Antiarrhythmics</strong></th>
<th><strong>Inotropes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lignocaine</td>
<td>Dopamine</td>
</tr>
<tr>
<td>Amiodarone</td>
<td>Dobutamine</td>
</tr>
<tr>
<td>Adenosine</td>
<td>Adrenaline</td>
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<tr>
<td></td>
<td>Nor-adrenaline</td>
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<tr>
<td></td>
<td>Milrinone</td>
</tr>
<tr>
<td></td>
<td>Calcium Gluconate</td>
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<tr>
<td></td>
<td>Levosimendan</td>
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<table>
<thead>
<tr>
<th><strong>Anticoagulant</strong></th>
<th><strong>Local vasoconstrictor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin</td>
<td>Nebulized adrenaline (eye Salbutamol drops)</td>
</tr>
<tr>
<td>Heparin</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Anticonvulsants</strong></th>
<th><strong>Muscle Relaxants</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonazepam</td>
<td>Pancuronium</td>
</tr>
<tr>
<td>Diazepam</td>
<td>Vecuronium</td>
</tr>
<tr>
<td>Phenytoin</td>
<td>Suxamethonium</td>
</tr>
<tr>
<td>Phenobarbitone</td>
<td></td>
</tr>
<tr>
<td>Thiopentone (also anaesthetic)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Antibiotics</strong></th>
<th><strong>Sedatives</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cephazolin (Kefzol)</td>
<td>Diazepam</td>
</tr>
<tr>
<td>Gentamycin</td>
<td></td>
</tr>
<tr>
<td>Penicillin</td>
<td>Chloral Hydrate</td>
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<tr>
<td>Cefotaxime</td>
<td></td>
</tr>
<tr>
<td>Vancomycin</td>
<td>Midazolam</td>
</tr>
<tr>
<td>Acyclovir</td>
<td></td>
</tr>
<tr>
<td>Metronidazole (Flagyl)</td>
<td></td>
</tr>
<tr>
<td>Bactrim</td>
<td></td>
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<tr>
<td>Fluclox</td>
<td></td>
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<tr>
<td>Amoxil</td>
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<table>
<thead>
<tr>
<th><strong>Antipyretics</strong></th>
<th><strong>Ulcer Prevention</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Paracetamol</td>
<td>Pantoprazole</td>
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<tr>
<td></td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th><strong>Bronchodilator &amp; Respiratory Stimulants</strong></th>
<th><strong>Vasodilators</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminophylline</td>
<td>Sodium nitroprusside</td>
</tr>
<tr>
<td>Theophylline</td>
<td>Glyceryl trinitrate</td>
</tr>
<tr>
<td>Atrovent</td>
<td>Phenoxycbenzamine</td>
</tr>
<tr>
<td>Ventolin</td>
<td>Prostaglandin E1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Diuretic</strong></th>
<th><strong>Others</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frusemide</td>
<td>Potassium Chloride</td>
</tr>
<tr>
<td>Aldactone</td>
<td>Magnesium Sulphate</td>
</tr>
<tr>
<td>Mannitol</td>
<td></td>
</tr>
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</table>
Drug Indication, Action and Preparation

Inotropes:

Dobutamine
- Increases myocardial contractility and cardiac output
- It stimulates beta 1 receptors of the heart to increase contractility and stroke volume. Half life is 2 minutes.
- < 30 kg put 15mg/kg into a 50ml 0.9% saline ( >10kg) or 5% Dextrose (<10kg) (1ml/hr = 5mcg/kg/min)
- > 30 kg put 6mg/kg into 100ml bag 0.9% normal saline (1 ml/hr = 1mcg/kg min)
- Can go peripherally or centrally

Dopamine
- To increase cardiac output and improve perfusion to vital organs.
- Stimulates dopaminergic and alpha/beta adrenergic receptors of SNS
- Good for shock, poor myocardial function, and low heart rates.
- < 30 kg put 15mg/kg into a 50ml 0.9% normal saline (>10kg) or 5% Dextrose (<10kg) (1ml/hr = 5mcg/kg/min)
- > 30 kg put 6mg/kg into 100ml bag 0.9% normal saline (1 ml/hr = 1mcg/kg min)\n- Only give centrally

Milrinone
- Short term treatment of heart failure
- Produces inotropic action and vasodilation by relaxing vascular smooth muscle.
- 1.5 mg/kg in 50 ml 0.9% normal saline (>10kg) or 5% dextrose (<10kg) (1ml hr = 0.5mcg/kg/min)

Adrenaline
- Alpha and beta - 1 & 2 effects
- Good for patients with bradycardia, hypotension, severe shock or myocardial ischemic insult.
- 0.15mg/kg in 50mls 0.9% normal saline (>10kg) or 5% Dextrose (<10kg) (1ml hr = 0.05mcg/kg/min)

Nor-Adrenaline
- Alpha and beta –1 effects
- Good for patients with profound shock.
- 0.15mg/kg in 50mls 5% dextrose only

Levosimendan
- A cardiac inotrope and vasodilator used in the management of acute heart failure
- Improves myocardial contractility by increasing the sensitivity of the cardiac myofilament to calcium. Half life 70-80 hours.
- It is administered as a loading dose followed by a continuous infusion
- Loading dose – 6-12 mcg/kg over 10 mins intravenously.
- Continuous infusion – 0.1 –0.2 mcg/kg/min for 24 hours.
- Short term use is for 24 hours, on occasions it is continued for up to 48 hours.
- Can be administered peripherally or centrally.
- Dilution: Maximum concentration for infusion is 25-50 mcg/ml
- Dilute with 5% dextrose only.
Prostaglandin (PGE1)
- Temporarily maintains patency of the ductus arteriosus.
- Relaxes smooth muscle of ductus arteriosus. Half life 5-10 minutes.

Dilators (Place on different line to inotropes):

SNP (Sodium Nitroprusside)
- Used in a hypertensive crisis and for the short –term therapy of cardiac failure.
- Relaxation of vascular smooth muscle and consequent dilatation of peripheral arteries and veins. Has a Half-life of 2 minutes.
- Can be administered peripherally or centrally.
- Use light protective tubing and cover syringe
- Put 3mg/kg into 50 mls 5% dextrose only (1ml hr = 1mcg/kg/min)
- > 30kg add 3mg/kg to 100ml bag of 5% Dextrose only (1ml hr = 0.5 mcg/kg/min)

GTN (Glyceryl Trinitrate)
- A vasodilator used in the management of angina, heart failure and myocardial infarction
- Relaxes vascular smooth muscle and reduces cardiac oxygen demand by decreasing preload and afterload. Half –life 1-4 minutes.
- Put 3mg/kg into 50 mls 0.9% normal saline (>10kg) or 5% Dextrose (<10kg)
  (1ml hr = 1 mcg/kg/min)
- > 30kg (Same as SNP)
- Use NON PVC tubing

Sedation:

Midazolam
- < 50kg put 3mg/kg into 50 mls 0.9% normal saline (>10kg) or 5% Dextrose (<10kg)  
  (1ml hr = 1mcg/kg/min)
- > 50kg put 50mg in 50mls labelled Midazolam 1mg/ml

Morphine (ICU Strength)
- < 50kg put 1mg/kg into 50 mls 0.9% normal saline ( >10kg) or 5% Dextrose (<10kg)  
  (1ml hr = 20mcg/kg/hr)
- > 50kg put 50mg morphine in 50 mls 0.9% normal saline
- Ward strength and PCA is 0.5mg/kg/50ml

Fentanyl
- < 25kg put 100mcg/kg into 50ml 0.9% normal saline (>10kg) or 5% Dextrose (<10kg)
- > 25kg put 50mcg/kg (NEAT)

Other Infusions:

Frasemide
- Diuretic therapy
- < 20kg put 25mg/kg in 50ml 0.9% saline (1ml hr = 0.5mg/kg/hr)

Heparin
- 10 units/kg/hr calculated as per guidelines with following strengths
- < 10 kg: 1000units heparin in 50 mls 0.9% Saline
- > 10 kg: 5000 units heparin in 50 mls 0.9% Saline
- ECMO: 5000 units heparin in 50 mls 0.9% Saline
Tips of the day when commencing a shift

Identify the appropriate resource person on the shift, so that you know who to access when the need arises. Your buddy in the adjoining room will be your first resource person. Identify your registrar and consultant for the shift.

The resource person outside the room may be
- Associate Unit Manager.
- Clinical Nurse Facilitator
- Clinical Nurse Educator
- Team Support Nurse
- PETS nurse
- Unit manager (0800 hour-1600 hour), Monday to Friday
- Technologists
- Ward Clerks
- PSA’s

- Always inform the TSN and AUM in charge of the shift if there is any adverse change of condition in your patient, so that they can channel appropriate resources to assist you.
- Always check inotropic drugs, KCL infusion and any unfamiliar drugs with an experienced PICU nurse if you are not PICU trained, or unfamiliar with RCH ICU method.

What to check when taking over a patient

- Receive the handover
- Introduce self to parents and child
- Check fluids and infusions with nurse handing over and sign on patient care record
  - Ensure all fluids and drug infusions that are ordered by the Medical staff are being administered, and correspond to the medical order sheet. Eg. Correct name, additives, dosage, rate, date and time
  - If the fluid charter program has been used, ensure there have not been any alterations to printed data. Any orders that vary from the standard must be hand written in full.
  - Check that all infusion pumps (Volumetric and Syringe) are in Guardrails (see below for more information re. Guardrails). Check that the Guardrails on the pump correspond with the infusion bag or syringe, which then matches the daily medical order on the Treatment sheet. Use a calculator and check the ordered dose is correct (ie a safe range according drug book) and that the amount been delivered is correct.
  - Drug infusion changed every 24 hours (except for some patients who are unstable on inotropes)
  - Check that the syringe is correctly positioned in the pump, and the line is hooked back into its holder on the syringe pumps
  - All three way taps are turned on (or off if the drug is discontinued), follow the line down to patient and ensure it has been labelled correctly
  - Ensure that the infusions are on the appropriate lines. Eg If the patient has a double lumen CVAD, the distal lumen (brown coloured- larger lumen size) is used for
maintenance fluid and filling and or CVP; and the other lumen is used for drugs infusion. It is important to ask the resource person if you are not sure which line to infuse a specific drug, as sudden flushing of certain drugs could have serious consequences.

- For patients with **mixed circulations check that the .22 micron filter** is present and inserted proximal to the patient on all infusions, except for the volume line containing blood products (excluding albumin), the lipid line, and some drug lines eg Propofol, cyclosporine, Prostin, Amphoteracin, Octroetide cannot go through the filter.

- **Follow the line from the syringe to the patient** to ensure compatibility of drugs running and to know what is running where. Check drug compatibilities.

- **Check the IV site** for phlebitis, pressure area, leakage and extravasation. Make sure that the strapping is secure. The cannula site should be clear of tape for observation.

- Check CVC well secured and dressing intact

- Check the IA site for discolouration, leakage or bleeding; make sure that the IA is well strapped. Make sure that there is a red tag on the short vigo closest to the patient

- **Check the limb which has the IA line** for warmth, colour, perfusion and present or absence of pulse. Please read the IA line policy for strapping and sampling blood.

- **Maintenance fluids**
  - < 4 weeks age: 10% Dextrose & 0.45% NaCl (12 mls NaCl 20%)+ KCL 20 mmols/L
  - < 4 weeks age: 10% dextrose + 0.9% NaCl (25 ml 20% saline) + KCL 10mmols /500mls
  - > 10kg use 5% dextrose + 0.9%saline (Standard 1 litre bag pre-made) + 20mmols KCL/L
  - Head injury patients receive normal saline 1 litre bag + 40mmols KCL added

- **Ensure that your patient is wearing two name bands, and sign on patient care record**

- **Drug Chart - while the member of staff who handed over to you is still present check the drug chart to:**
  - See that all drugs have been double checked and signed for.
  - Note what drugs your patient is on and when they are due.
  - When giving drugs you are unfamiliar with, please check the dosage against the ICU Drug Dose book to ensure that the correct dosage has been prescribed.
  - Drug books on administration and interaction are available in each room on the Intranet

- **Hand ventilation**
  - Ensure that a face mask of appropriate size is at the patient’s bedside. If intubated, on pendant tray or on top of ventilator, if extubated, attached to bagging circuit.
  - Correct size of bag for hand ventilation. (Children under 12 months - 500 mls bag, 12months – 8 years - 1 litre bag, over 8 year - 2 litre)
  - Ensure bagging circuit is connected to 100% O2 unless the patient has a balanced circulation
  - Check that manometer blow-off setting is appropriate
  - Oxygen should be turned off in between suction

- **Suction Equipment**
  - Check that it is working and set to a maximum suction pressure: 200 mmHg not ‘Max’, and ensure it is left on.
  - Do not leave suction catheter attached to the suction tubing when not in use. It is very hard to remove in an emergency.
  - Check that suction container does not need replacing
Correct size of Yankeur sucker and suction catheter (ETT and oral). Check that the plastic cups for suction are empty and labelled for oral and ETT use. The suction tray and catheters and water bottle are changed once daily. Check date and time.

**Monitoring System**
- Ensure that the monitor alarm limits are set appropriate to the given age and condition of the child and that the audible alarm switch is on and is actually audible. Turn it up if not.
- The ECG is printed for analysis
- Ensure that correct patient is entered onto monitor, including UR number

**Transducers**
- Ensure all transducers are at the correct level and calibrate and zero. Check that there are no loose connections.
- The transduced waveforms are checked, including the end-tidal CO2
- For direct monitoring lines (LA, PA, and RA for patients with mixed circulations) the .22 micron filter is present and inserted between the syringe and transducer.

**Ventilation**
- Ensure the ventilator settings correspond to those written on the respiratory sheet. If setting doesn’t match the order, do not change them, but inform the AUM or Registrar in the room.
- Ensure ventilator circuit is secure, positioned well and is patent
- Check humidifier water level and circuit.
- Listen to hear if the patient has a leak around the ETT, or detected by examining the ventilator Flow waveform
- If on the AVEA ventilator check that the ADVANCED SETTINGS are on and set appropriately
- If on the VIP Bird with the paediatric flow sensor, check that flow sensor 5L volume is compensated for on the machine. Do this by checking the Flow waveform and calculating the patients expected Tidal Volumes and comparing to machine TV
- If the patient has a cuffed ETT, check the cuff pressure with a manometer and the cuff for a leak once per shift. Cuff check should be performed with an experienced PICU nurse. The patient must be free of oral secretions prior to the checking of cuff, so suction the oropharynx first. If unsure seek help from the resource person.
- Check the nostril for pressure area from ETT or nasogastric tube.
- Use bag or pin and elastic band to secure and position the tube. Ensure that the ETT is pointing 45o downward and out of the nostril, and is not kinked. If light weight tubing has been used, please make sure that the bag is not sitting on the light weight tubing. (See Care of the ventilated child). For older children with the adult circuits, use tubing holders to position the tube if is needed.
- Check the date the ventilator tubing is due for its 7th day replacement

**Check that the bed is elevated 15 degrees, or 30 degrees if neuro patient**

**Complete a full physical assessment of child and record findings on observation chart. Include skin and oral hygiene in initial checks**
Treasure Hunt

Items (Tick When Found)

☐ Chest opening trolley’s
☐ Emergency bells
☐ Drug room
☐ Defibrillators
☐ Anaesthetic trolley
☐ Volumetric pumps
☐ IV solution trolley
☐ Syringe pumps
☐ Chest drain trolley
☐ Oxygen analysers
☐ Emergency trache set
☐ ECG cables & leads
☐ Temp probes skin & core
☐ Stationery supplies
☐ LP bottles/needles
☐ Universal containers
☐ IV giving sets
☐ Urinary burettes
☐ Blood filters
☐ Urinary bags
☐ Sterile gowns
☐ Dextrostix
☐ Disposable face masks
☐ 3 way taps
☐ IV fluids
☐ Fire extinguishers
☐ Dressings
☐ Blankets/booties/hats
☐ Oxygen masks
☐ Resuscitation boards
☐ Nasal prongs
☐ Arm splints
☐ Disposable dressing packs
☐ Urine testing equip
☐ Chest drains
☐ Viggo ext sets long/short
☐ Spare suction bottles
☐ Camera

☐ NUM office
☐ Extra equipment
☐ Cooling blankets
☐ Laundry supplies
☐ Incontinent pads–bluey’s and dry flows
☐ Skin protection (jelco’s)
☐ Neuro examination tray
☐ General information folder
☐ Eye protection glasses
☐ Plastic aprons
☐ Spare syringes
☐ Sterile swab sticks
☐ Blood culture bottles
☐ Helipad
☐ Foley’s catheters
☐ Mouth care tray
☐ Milk formulas
☐ Sterile gloves
☐ Spare oxygen cylinders
☐ Knitted babies articles
☐ Resuscitation drugs
☐ Evacuation boxes
☐ Oxygen cylinder
☐ Feeding tubes
☐ Transport monitors
☐ IV fluids
☐ Conc Albumin
☐ 4% Albumin
☐ Oxygen flow meter
☐ Oxygen flow tubing
☐ Oxygen humidifiers
☐ Misty nebulizers
☐ Arm restrainers
☐ Fire escape corridors
☐ Spare suction trays
☐ Emergency ECMO circuits
☐ Fire hoses
☐ Emergency break glass alarm
☐ Fire extinguishers