For more than 125 years, Melbourne's Royal Children's Hospital (RCH) has grown to meet the needs of sick children, infants and their families.

The Paediatric Intensive Care Unit (PICU) is a busy, dynamic unit that cares for about 1,300 children a year. Referrals are made from all over Victoria, southern New South Wales and Tasmania. Many children with cardiac problems are referred to the unit and admitted from interstate and overseas.

PICU is staffed for 13 beds, but the unit can accommodate up to 24 patients. The range of services offered is broad, and PICU’s specialist medical and surgical services are in great demand.

Many patients are admitted following cardiac surgery, when conditions such as tetralogy of Fallot, hypoplastic right or left heart, atrial and ventricular septal defects, coarctation of the aorta and transposition of the great arteries are commonly found.

Newborns with cardiac defects are managed within the unit, as are children with respiratory problems such as croup, bronchiolitis and asthma and more complex problems such as tracheo-bronchial malacia and primary pulmonary hypertension.

The unit assesses and prepares children for home ventilation and cares for children after heart, liver and renal transplants. It also houses the National Paediatric Extra Corporeal Membrane Oxygenation (ECMO) Centre and the State Paediatric Trauma Centre. Children are also admitted to the unit as a result of spinal injury, burns, neurological disease, metabolic derangement and septicaemia.

For more information please contact:
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**PETS**

**Paediatric Emergency Transport Service**

For infants and children requiring intensive care or ongoing management at the Royal Children’s Hospital, the unit provides a 24-hour emergency transport service.

Most patients are referred by regional hospitals, metropolitan adult tertiary hospitals or smaller rural hospitals. First contact is made by telephone and advice on how best to care for the child is given and appropriate transport arranged if needed. A senior registrar from the unit is usually accompanied by a senior nurse to anywhere in Victoria, Tasmania or southern New South Wales and they will retrieve the child, ensure stabilisation and prepare transport – usually by ambulance, or fixed or rotary wing aircraft.

About 550 patients a year are referred to PETS, 300 of whom are admitted to RCH. There is a similar, independent service for newborns weighing up to five kilograms. Known as the Neonatal Emergency Transport Service (NETS), it is based at The Royal Women’s Hospital.

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**PICU**

**Paediatric Intensive Care Unit**

PICU has a central desk area surrounded by six rooms, one of which is an isolation room. Within each of the other five rooms there is room for four to six patients. Most of the rooms have a pleasant view outside and all are well equipped with bedside monitoring and other equipment used in the delivery of care to critically ill infants and children. Each room has its own telephone and intranet access for PICU guidelines, results and x-rays.

The unit is close to the operating suite, Radiology Department and laboratory and there is direct access to PICU from the hospital’s helipad. A MET (Medical Emergency Team) is provided by PICU to the rest of the hospital.

PICU has an extensive education program, with staff able to participate in a number of different workshops and projects. Specialised training in ECMO and plasmapheresis is available to interested nursing staff.

A dedicated seminar room equipped with a range of audio-visual aids is used daily by staff. There is also a comprehensive orientation and preceptorship program for new staff.

The unit participates in the Australian Patient Safety Foundation, incident reporting which maintains a database to help in the evaluation of the quality improvement program.

A staff support/discussion program is in place and personnel trained in critical incident debriefing are available to all staff 24 hours a day.

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**PICU staff**

The unit has more than 100 nursing staff and most have a post-registration qualification in paediatric intensive care. Staff turnover is low.

As well as the unit manager, there are ten associate unit managers, a clinical nurse educator, two clinical nurse facilitators and a number of clinical nurse specialists, as well as registered nurses. The medical staff includes six consultants, two senior registrars and eight registrars. Three intensive care technologists provide support to the unit by processing, maintaining and repairing specialist equipment.

They also help staff at the bedside by preparing equipment to provide complex therapies such as haemo-filtration, plasmapheresis, high frequency oscillatory ventilation, nitric oxide. Other support staff include ward clerks and a number of patient services assistants and volunteers.

The multidisciplinary team involved in the delivery of services to the patients and their families includes a pharmacist, social worker and physiotherapist, as well as an extensive range of services available from within the hospital – including a postnatal mothers’ unit and parent accommodation.

The PICU, in association with the University of Melbourne, offers a postgraduate diploma in paediatric intensive care. Between 10 and 15 students undertake the diploma each year. This provides the unit with constant stimulation and requires us to continually examine our practice. Research is encouraged and several multi-centre studies are being carried out.

The Paediatric Intensive Care Unit at the Royal Children’s Hospital is committed to providing a high standard of care for children and their families in an environment that supports staff and encourages their growth and development.
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