



pets



the victorian paediatric emergency transport service



The Victorian Paediatric Emergency Transport Service

The Victorian Paediatric Emergency Transport Service (PETS) is based at the Paediatric Intensive Care Unit (PICU) of the Royal Childrens Hospital, Melbourne. It began operations in 1979, retrieving 46 patients in that year and now transfers between 200–250 critically ill children per year.

The aims of the service are:

- 1. To provide advice on the resuscitation of critically ill children to doctors, nurses, hospitals and ambulance officers outside the Royal Children's Hospital (RCH).***
- 2. To make the resources of paediatric intensive care available to severely ill children all around Victoria by offering them safe, expert interhospital transfer to the paediatric intensive care unit at the RCH.***

Victorian PETS serves all of Victoria, southern New South Wales and Tasmania with a catchment population of approximately 6 million people. Approximately 1.5 million children live in Victoria, 700,000 children live in Melbourne metropolitan area. The Victorian PETS also transfers some children from other state capitals (usually by light aircraft but occasionally by commercial airline and from other countries (e.g. Singapore, Indonesia, Pacific Islands and the United Kingdom).

All transfers of neonates and infants up to 5kg body weight in Victoria are performed by the Victorian Neonatal Emergency Transport Service (NETS) based at The Royal Women's Hospital, Melbourne.

Organization

The Director of PICU is the Director of PETS. Administration is by a committee within the PICU consisting of the unit manager (nursing), several senior nurses, an intensive care specialist, a senior PICU registrar and a PICU technologist. Administrative tasks are delegated to members of this committee that meets once to twice monthly.

Protocols

Procedural protocols and medical protocols (based on those used in the PICU) are available to guide the transport teams.



Staff

PETS is staffed from within the PICU. All transfers are performed by a doctor and a PICU nurse or by a doctor and a paramedic. Most transfers are performed by the PICU registrars and the remainder by the PICU consultants. The registrars are all senior (with more than four years training in paediatrics, intensive care, anesthesia or emergency medicine) with extra training as needed in airway management (i.e. tracheal intubation) and central venous cannulation. The nurses have undertaken or are undertaking a one year post-graduate specialist course in PICU nursing.

Equipment

Each transfer team carries equipment appropriate to the child's illness that is being retrieved. The PICU technology staff supervises equipment purchase and maintenance.



Record Keeping

About half of all contact telephone calls result in retrieval. The others are requests for advice or result in the transfer of the child by other means. A form is completed by the receiving doctor (PICU registrar or consultant) for each telephone call. This form acts as the retrieval record in the event of a transfer and is stored for later reference. Data from this form is stored on a computer database in the PICU and annual reports are produced.

Quality Assurance

PETS staff have conducted reviews of results, including a prospective study of untoward events during the transfer and a prospective survey of consumer (i.e. referring staff) satisfaction. The results of these surveys have been used to modify PETS protocols and staff training. A survey of patient satisfaction is also being planned. PETS staff also conduct case reviews.

Outreach Teaching

One day or half day self-funding seminars are conducted in metropolitan and regional centres in Victoria and Tasmania by RCH PICU staff on topics related to resuscitation, stabilization and transfer of critically ill children. The audiences are usually nurses, general practitioners, hospital residents, registrars and consultant pediatricians.

For further information on accessing this for your institution please contact the PICU Unit Manager – Nursing on (03) 9345 5201.

Patient Numbers

Between 200 and 250 children are transferred per year. Of these about 50% need transfer because of respiratory disorders (e.g. severe asthma, croup or ARDS), 20% are for major trauma or severe burns and 10% for other conditions such as septic shock.

Apart from small size (less than 5kg) which means temperature vulnerability requiring a NETS incubator, no children who need intensive care are excluded. If no PETS team is immediately available, the receiving RCH PICU doctor discusses the case with the referring staff (including resuscitation measures) and arranges for the child to be transferred by a doctor from the referring hospital or by a paramedic ambulance crew.

Some children improve sufficiently during stabilization and transport as to not require intensive care and can be nursed in a ward at the RCH after retrieval by PETS.

A family member will be transported with the child whenever there is sufficient time and space/weight allowance in the transport vehicle.



How to contact PETS

Telephone (03) 9345 7007

Advice 24 hours per day for retrieval

Who should you speak to?

Ask for the PICU consultant or the senior PICU registrar.

What information will you be asked for when you ring?

1. The child's name (*first name and surname*)
2. The child's age (*and weight if possible*)
3. Where is the child now in your hospital? (*Emergency Department, Childrens ward, Recovery etc*)
4. A contact name and phone number
5. The name of the referring consultant
6. What the consultant thinks is wrong with the child
7. Clinical signs (including recent changes)
 - Heart rate
 - Blood pressure
 - Respiratory rate
8. Are the hands and feet warm?
9. Is the skin pink or is it blue or mottled?
10. What is the response to command or to painful stimuli to the head?
11. What is the oxygen saturation (pulse oximeter)?

Treatment

1. How much oxygen is the child receiving and by what route? (*mask, head box, nasal catheter, nasal prongs etc*)
2. Has the child an endotracheal tube?
If so, what size and length at the lips or nose?
3. Are the inspired gases humidified? How?
4. Position of the ET tube tip on chest X-Ray?
5. Is there a nasogastric tube on free drainage?
6. Is the child ventilated? What rate, pressures and how much oxygen?
7. What fluids has the child had and what is he/she getting now? How many mls per hour?
8. What drugs have been given? What doses?
9. Were blood cultures taken before antibiotics (if any) were given?
10. What has the response been to treatment?

Investigations: *(where appropriate)*

1. What has been done?
2. What were the results? In particular:

Xrays

- Chest
- Cervical spine
- Pelvis
- CT scans

Haematology

- Hb, platelets, clotting

Biochemistry

- Blood gases, sodium, potassium, glucose, drug screen

This information helps PETS staff to give you appropriate information and advice about treatment before the PETS team arrives and to ensure that appropriate equipment is available to transfer the child.

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