PIPER Retrieval Team Response Times

The PIPER retrieval team response aims to match the level of patient illness acuity.

PIPER will provide an estimated time of arrival either at the end of the referral call or as soon as it is available (e.g. once air resource availability confirmed). PIPER will update the ETA if significant change to ETA anticipated.

The PIPER Consultant will support the referring team with ongoing advice as required while the retrieval team is en route.

The referring team can contact PIPER at any time to check the ETA or access further advice.

The PIPER Paediatric and Neonatal Acuity Classifications are shown in Appendices 1 & 2.

Response time is the time from decision to retrieve (often this coincides with the time of referral) until arrival at the referring hospital. It includes:

Mobilisation/Activation time – the time taken to assemble a team and depart from RCH

Time intervals for Air Transfers

- Time from arrival at airport until take off
- Flight time to airport near referring hospital
- Time for road transfer from airport to referring hospital

Time intervals for Road Transfers

- Time from RCH to referring hospital

For the most urgent referrals we aim to depart our base at Royal Children's Hospital within 15-30 minutes of the decision to retrieve.

PIPER has both neonatal and paediatric teams on site at RCH 24/7. At peak referral times (1100-2300 Mon-Fri) there is a 2nd neonatal team onsite. In addition, Patient Transport Officers (PTOs) contracted though Ambulance Victoria are on site 24/7, again with a 2nd PTO available from 12 noon-2200.

Factors that impact response time include:

1. Traffic conditions. Can significantly hamper response time even under lights and sirens conditions.
2. Concurrent road transfers where a 2nd emergency driver has to be sourced from AV emergency ambulance resources.
3. Concurrent referrals where an on call team has to be called in from home. Most, but not all, on call staff live within 30 minutes travel time of RCH off peak.
4. Availability of fixed wing or helicopter for air transfers. PIPER teams must travel to Air Ambulance Victoria's base at Essendon airport for both fixed wing and helicopter access. In the best of circumstances the time from departing RCH to take off is 45-60 minutes.
5. Adverse weather conditions can mean air transport options are unavailable.

Appendix 1: PIPER Paediatric triage criteria

PIPER Paediatric GO NOW Criteria

Depart RCH within 15 mins of decision to retrieve subject to team and transport platform availability

1. **Suspected severe sepsis** and one or more of
   - Venous blood Lactate >3 mmol/L
   - Neutropenia (neutrophil count <1000 / mm3), unexpected (i.e. not related to cancer chemotherapy)
   - Coagulopathy (INR>1.6, APTT>60, Fib <1)
   - Signs of shock* persisting despite a total of 40ml/kg fluid.
2. **Upper airway obstruction** persistent despite >2 doses of adrenaline, or hypoxic (SpO_2<90%).
3. **Pneumonia with hypoxaemia** (SpO_2 <90%) despite locally available non-invasive respiratory support.
4. **Large pleural effusion** (e.g. near white-out of hemi-thorax).
5. **Surgical abdomen** with signs of shock*.
6. Ongoing **seizures** despite 2 doses of midazolam and loading with a long acting agent (phenytoin, levetiracetam, phenobarbitone).
7. Signs of **raised intracranial pressure.**
8. Unconsciousness with **worse than flexion** motor response.
9. Any **arrhythmia** with haemodynamic compromise (shock*, hypotension, signs of heart failure).
10. Any child with suspected **systemic to pulmonary shunt** who is about to be **intubated** or needing **inotropes.**
11. Any child with **suspected cardiomyopathy / myocarditis** who is about to be **intubated** or needing **inotropes.**
12. Cardiac or respiratory **arrest.**
13. Serum **ammonia** >150 mcg/dL.

Any child fulfilling these Go Now criteria should be discussed urgently with a PIPER consultant. Most of these children will need to be transported out by PIPER to RCH PICU or Monash PICU, but some will initially be stabilised in the regional ICU that has a paediatric intensive care section.

* Signs of shock include capillary refill >3 seconds, low volume pulses, hypotension, tachypnoea, lethargic or poor conscious state

Appendix 2 PIPER Neonatal Activation Classification

Time Critical - Depart within 15 minutes

Consider helicopter where appropriate

- Ongoing resuscitation in the context of:
  - Collapse, shock or high risk for severe deterioration
  - Severe asphyxia
  - Persisting hypoxia or bradycardia
- Extreme Prematurity
  - < 32 weeks in level 1 hospital
  - ≤ 28 weeks in level 2 hospital
- Ventilated in
  - Any nursery without mechanical ventilator
  - Level 1 hospital
  - Low dependency level 2 hospital
  - Greater than 60% oxygen
- Sick Infant in a hospital without staff or equipment to deal with clinical situation
- Bile stained vomiting – rule out malrotation *(consider paramedic transfer)*.

Urgent - Depart within 30 minutes

- All other transports except those classified under non-time critical below.

Non-Time Critical - Depart when bed available

- Overflow transfers (some)
- Non-elective transfers on respiratory support (special investigations, Laser)
- All 'return transfers' on respiratory support (booked).

Elective and Return - Booked time

- Non-ventilated, booked, transports (special investigations)
- Back transfer of infants who are **NOT** on respiratory support.

Consultation - Neonatal

- Contact with PIPER Neonatal in which the infant is **NOT** transported within 24 hours of initial call.