



# THE PAEDIATRIC SOCIETY OF NEW ZEALAND

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## PSNZ POSITION STATEMENT ON STANDARDS OF PRACTICE FOR INTER-HOSPITAL TRANSPORT OF CHILDREN

July 2015

### COVERING STATEMENT

These guidelines have been written by the Transport Committee of the Paediatric Society of New Zealand to provide advice for DHBs when designing transfer services for children.

The intent is to provide a framework for the key elements of a paediatric transfer service around which DHBs can then create local and regional policies and services, and to serve as a starting point on which local services can be built and/or developed.

The emphasis is on best practice for expeditious transfer and clinical safety for children of all ages during the transfer process.

### PRINCIPLES

The management of children in all clinical settings requires a specific clinical and psychosocial environment which includes and involves family. This is no less applicable in the transport setting.

Inter-hospital transport is not a gap between episodes of care, but is a continuation of clinical management in a more challenging and clinically unsupported environment. Transport personnel should have the relevant clinical experience that matches the care needs of the patient, including transport and paediatric knowledge and skill.

The level of care should be of at least the same standard during transport as the patient was receiving prior to transfer.

Ideally, stabilization should occur prior to transport, and the transport phase should be as uneventful as possible. Pre-transfer stabilization may require some time. There is little place for a “scoop and run” approach, except with time critical conditions requiring urgent intervention at the receiving hospital, or when necessary skills and equipment cannot be brought to the patient.

Overall responsibility for the patient rests with the referring clinical team until formal handover to the transport team has occurred.

Prehospital emergency care is excluded from this Position Statement.

## PERSONNEL

The skill and experience of accompanying personnel are the most important factors in reducing risk during transport. Staff must be capable of recognizing deterioration in the patient's condition, and performing any anticipated intervention required during transfer. They must be trained and experienced in delivering the level of care required for the patient, and must be able to operate safely without the usual clinical backup.

### Staff require a range of competencies:

Paediatric medicine  
Transport and aviation medicine  
Emergency care  
Intensive care  
Subspecialty skills

### Training requirements:

Minimum - RN with Paediatric experience and an understanding of age related norms.  
Training with equipment  
Preferred - APLS certification  
Flight nurses course  
ICU transport training for ICU transfers  
Medical staff - Airway capable  
Able to recognize deterioration  
Subspecialty staff may be required to stabilize before transfer eg  
neurosurgeon, cardiologist

## PROCESS

Telephone (and/or telemedicine) discussion between referring and receiving clinicians regarding the patient's clinical condition and reason for transfer.

Details of transport are agreed between them depending on:

- Patient dependency
- Timing and speed
- Weather
- Geography
- Length of transport
- Vehicle availability
- Personnel requirement and availability
- Equipment requirement and availability
- Need for an emergency specialty procedure

### One way vs 2 way transports

In principle a child should stay where he/she is and expertise should travel to the patient.

**Where a patient requires an urgent, time-critical intervention and the staff or equipment required cannot travel to the patient, the most expeditious way of delivering that patient to the place of expertise must be employed.**

Development of specialized paediatric transfer services within regions should be encouraged. This will ensure local availability of appropriate equipment, adequately skilled personnel, and ongoing training opportunities.

## **RESPONSIBILITIES**

### **Of referring team:**

- Clinical notes available
- Copies of investigations
- Transfer letter
- Patient specimens
- Blood products as required

### **Of transport services:**

- Easily contactable
- Equipment charged, maintained, stocked and ready
- Minimal response time

### **Of receiving units:**

- Easily contactable
- Personnel and equipment available to receive the patient on arrival

## **FUNDING**

The patient's clinical condition and the level of available clinical expertise determine the mode and timing of transfer and the decision to transfer rests with clinicians able to assess this need, not management staff.

Decisions must include provision for the presence of immediate family wherever possible.

Clinicians should be aware of the costs of alternatives and where clinically safe opt for the least expensive mode of transfer

Coordination of transports across the country will reduce unnecessary double transfers.

## **DOCUMENTATION AND HANDOVER**

**There must be a written record of the patient's condition during transfer and this must be left as part of the patient's medical record.**

This record will include a minimum of 3 vital sign recordings:-

- prior to leaving the referring hospital
- during transport at least once, depending on distance and clinical condition
- on arrival at the receiving hospital

Children's vital sign normal values change with age and correct assessment of the patient requires an intimate knowledge of these ranges. Age related vital sign charts eg the appropriate PEWS chart, should be provided to transport personnel, particularly non-paediatric based staff, to facilitate correct patient assessment.

Details of clinical condition, fluids, medications administered, other interventions during the transport and family situation must be documented at handover.

Handover at both ends should be in a safe clinical environment ie hospital unit to hospital unit and not in passing in a non-clinical environment eg the tarmac unless there is no alternative.

Handover should be both written and verbal.

## **COMMUNICATION**

Referrer to Receiving Unit personnel

- Patient location
- Clinical condition both at referral and ongoing changes
- Patient management decisions
- Phone number and name
- Family situation

Receiving Unit to Transport team initial

- Patient location
- Clinical condition both at referral and ongoing changes
- Patient management decisions
- Phone number and name
- Family situation

Receiving unit to Referrer

- Ongoing patient management advice
- Phone number and name

Transport team to Referrer

- ETA
- Number of family members able to accompany the patient
- Phone number and name
- Patient management advice as necessary

Transport team to receiving unit

- Clinical condition of the patient
- ETA
- Family accompanying
- Phone number and name

Receiving Unit to Transport team ongoing

- Clinical management advice
- Location for patient delivery

## **EQUIPMENT**

Transport services have a responsibility to be ready to respond with little notice. To this end equipment must be/have:

- Maintained charged and ready at all times
- A good battery life
- Sufficient monitoring channels for clinical need
- Sufficient power source and DC conversion
- Sufficient gas supply – both medical air and oxygen
- Alarms both visual and audible

- Age appropriate eg ventilators
- Humidification
- Pumps for IV fluids
- Suction – maintained in working order
- Fluids appropriate for patient age, clinical need and resuscitation
- Drugs for patient care and emergencies
- Tubes and lines well secured
- Mounted to a stretcher or restrained - if by air to CAA certification
- Incubator for patients less than 5 kg

## **MONITORING AND MANAGEMENT**

### **Routine inpatient transfer.**

#### **Stable patient receiving routine in hospital observations**

Minimum requirement:

- Vital sign monitoring 3 recordings – prior to departure, in transfer, on arrival
- ECG, RR, NIBP, Saturation, Temperature, GCS, Pupils
- One patent IV if receiving IV medications or need is possible
- One patient attendant in addition to family

#### **Sick but stable patient at risk of deterioration or requiring IV fluids or therapy in transfer**

- Minimum of ½ hourly vital sign recordings as above
- Two patent IVs
- Two personnel desirable

#### **Unstable or ventilated patient**

- Minimum vital sign recordings 15 mins
- Capability for invasive pressure monitoring – minimum of 2 channels
- 2 patent PIVs with arterial and /or central access as indicated
- 2 personnel, preferably 1 transport nurse and 1 doctor

## **RESTRAINTS**

Children must be fitted into an age and size appropriate restraint during transfer, adjusted for clinical condition and ability to safely travel in that restraint for the duration of the transport.

As health providers, DHBs are responsible for ensuring age appropriate best practice restraint in all vehicles required for the transport including taxis, regardless of legal exemptions. (Rear facing restraint to approximately 2 years, forward facing restraint with top tether until approximately 4 years and booster seat until 148 cm tall)

In vehicles, restraints should comply with Car Restraint legislation and standards.

In ambulances car seats cannot usually be restrained as per manufacturer's instructions, unless they are positioned on a vehicle seat with a top tether bolt available. When children are being transported on an ambulance stretcher, restraints specifically designed for this purpose will be used.

Neonates and young infants should be considered for a car seat trial prior to travelling.

## **FAMILY**

A family member should be present with a child during the transport if at all possible.

Informed consent is often indicated. At a minimum family must understand why and how their child is to be transported.

Accompanying family members must not pose a potential risk in the transport environment either because of behaviour or medical need. They must be appraised of what to do in an emergency.

The decision to leave family behind rests solely with the transport team.