Policy Directive

Department of Health, NSW
73 Miller Street North Sydney NSW 2060
Locked Mail Bag 961 North Sydney NSW 2059
Telephone (02) 9391 9000 Fax (02) 9391 9101
http://www.health.nsw.gov.au/policies/

Children and Adolescents - Inter-Facility Transfers

Document Number PD2010_031

Publication date 02-Jun-2010

Functional Sub group Clinical/ Patient Services - Baby and child

Summary The purpose of this policy is to provide a framework to facilitate the safe and timely transfer of children and adolescents whose medical condition requires care at a different level from that of the presenting hospital.

Author Branch Statewide Services Development

Branch contact Trish Boss 9424 5706

Applies to Area Health Services/Chief Executive Governed Statutory Health Corporation, Board Governed Statutory Health Corporations, Affiliated Health Organisations - Non Declared, Affiliated Health Organisations - Declared, Public Health System Support Division, Community Health Centres, NSW Ambulance Service, Public Health Units, Public Hospitals

Audience Emergency Departments, Paediatric Units

Distributed to Public Health System, Divisions of General Practice, Government Medical Officers, NSW Ambulance Service, NSW Department of Health, Private Hospitals and Day Procedure Centres, Tertiary Education Institutes

Review date 02-Jun-2013

Policy Manual Patient Matters

File No. 08/8495

Status Active

Director-General

NSW HEALTH
POLICY STATEMENT

INTER-FACILITY TRANSFERS OF CHILDREN AND ADOLESCENTS

PURPOSE

The purpose of this policy is to provide a framework to facilitate the safe and timely transfer of children and adolescents whose medical condition requires care at a different level from that of the presenting hospital.

MANDATORY REQUIREMENTS

This policy applies to all facilities where paediatric patients are managed. It requires all Health Services to have local guidelines/protocols based on the attached clinical practice guideline in place in all hospitals and facilities likely to be required to assess or admit children.

IMPLEMENTATION

Area Health Service Chief Executives or delegated officers are required to communicate the information contained within this Policy to relevant facilities and staff. Area Health Services are required to engage relevant clinicians and ensure that consistent local protocols or operating procedures are developed and distributed to relevant clinical areas.

REVISION HISTORY

Version	Approved by	Amendment notes
June 2010 (PD2010_031)	Deputy Director-General Strategic Development	New Policy

ATTACHMENTS

1. **Inter-Facility Transfers of Children and Adolescents**: Clinical Practice Guidelines.

Inter-Facility Transfers of Children and Adolescents

NSW HEALTH
Clinical Practice Guidelines

Issue date: June 2010

PD2010_031

CONTENTS

Note: this policy has been informed by relevant documents developed by AHSs.

1 Background

The NSW Health system covers a large geographical area and includes multiple and diverse acute health facilities across metropolitan, regional, rural and remote regions. It is not possible for all services to be provided by all facilities and at times children and adolescents need to be transferred to a different facility for appropriate and necessary treatment.

NSW Health has established three Child Health Networks; each includes one of the State's tertiary children's hospitals as well as many other hospitals and Multi-Purpose Services providing acute care to children and adolescents. The requirement to transfer children and adolescents between hospitals is a necessary and routine occurrence to ensure that care is provided in the most appropriate facility and in a timely manner. The plan for transport used when transferring children and adolescents should be integral to any treatment discussion.

The *NSW Health Guide to Role Delineation of Health Services* (2002) outlines six possible levels of paediatric medical and surgical service delivery, which broadly describes the paediatric care that can be delivered at a facility.

2 Purpose

The purpose of this policy is to provide a framework to facilitate the safe and timely transfer of children and adolescents whose medical condition requires care at a different level from that of the presenting hospital.

3 Implementation

Area Health Service Chief Executives or delegated officers are required to communicate the information contained within this Policy to relevant facilities and staff. Area Health Services are required to engage relevant clinicians and ensure that consistent local protocols or operating procedures are developed and distributed to relevant clinical areas.

4 Associated documents

- *Emergency Paediatric Referrals Policy,* PD2005_157 NSW Health Department 1999.
- *Guide to the Role Delineation of Health Services*, NSW Department of Health, third edition, 2002, including the Indicative List of Paediatric Surgical Procedures for General Surgery and Levels of Risk of Children.
- *The Australasian Triage Scale*, Australasian College of Emergency Medicine 2000.
- *Guidelines for the Care of Children in Acute Care Settings*, PD2010_034 NSW Department of Health revised 2010.
- *NSW Clinical Practice Guidelines for Paediatric Care*, various http://www.health.nsw.gov.au/publichealth/clinicalpolicy/paediatric.asp
- *Guidelines for Networking of Paediatric Services in NSW*, NSW Department 2002.
- *Recognition of a Sick Child in Emergency Departments: Clinical Practice Guidelines,* PD2005_382 NSW Department of Health 2005.

- *Transport for Health,* PD2006_068 NSW Department of Health 2006.
- *Management of Paediatric Inpatient Admission in Designated Level 1-3 Paediatric Medicine and Paediatric Surgery facilities,* PD2010_032 NSW Department of Health 2010.
- *Safety and Security of children in NSW Acute Health Facilities,* PD2010_033 NSW Department of Health 2010.

5 Determining the Need for Transfer

Inter-hospital transfer of a child is indicated in the following circumstances:

- The child requires a level or type of treatment beyond the capacity of the presenting hospital. AHSs are responsible for providing guidance for staff as to which treatments are available and/or not available in their facilities.; [Refer to the criteria for calling NETS at Appendix 1]
- To allow the child to be treated closer to home following treatment in a higher-delineated service within or outside the AHS; or
- The patient presents in a hospital without inpatient service for children and needs to transfer for inpatient care.
- The child requires ongoing inpatient management and there is no appropriate paediatric ward be or paediatric safe beds available at the presenting facility.

In the majority of cases the necessary paediatric acute emergency and inpatient services will be available within the AHS and transfer of children and adolescents to a higher-delineated care facility can be accommodated within the AHS. Transfer of a child to a Children's Hospital is indicated when the condition requires a tertiary level of care or where designated by NSW Health policies – eg need for intensive care, severe burns, major trauma.

Determining the need for transfer is a joint responsibility between the transferring and receiving hospitals.

5.1 Transferring hospital responsibilities

It is the responsibility of the most senior attending Medical Officer or delegate to assess and determine the need for transfer of a child to a higher level of care, in consultation with the local or network Paediatrician on-call and a Paediatrician and/or Emergency Department physician at the receiving hospital. Staff should refer to any local AHS protocols regarding escalation and/or requirements for Medical Officers to attend the patient for assessment. The Medical Officer should:

- Identify the need for escalation of clinical care for children and adolescents who are at risk of their condition deteriorating and/or have complex health conditions.
- Identify the level of care required and the most appropriate destination hospital.
- Consult with relevant clinicians at the destination hospital and make arrangements for the appropriate timing of transfer [ensuring that consultation occurs with an appropriately senior clinician].
- Involve NETS as part of the clinical consultation in the case of the seriously ill child or infant and identify the most appropriate transport plan, including level of escort

(ambulance, regional retrieval, NETS retrieval), degree of urgency and appropriate vehicle type.
- Agree on a desirable time-frame for the patient to leave the referring hospital (departure goal) and a plan for any changes if the patient's condition changes pre-transfer.
- Book the transfer with the ambulance service or patient transport service; indicating a desired time-frame for the ambulance to commence the transfer and/or to be at the destination hospital.
- Book the transfer with the ambulance service or patient transport service; indicating a desired time-frame for the ambulance to commence the transfer and/or to be at the destination hospital
- Document the agreed treatment plan required whilst awaiting transfer, and communicate this to nursing staff involved in the child's care.
- Inform the parent/carer as appropriate with consent of the child, where appropriate.
- Ensure that the destination hospital has full details of the child's medical condition and requirements.
- Ensure that the child's condition has been assessed and stabilised as much as possible prior to transfer [in consultation with a clinician at the receiving hospital].
- Ensure the child's safety at all times with regard to transfer decisions.
- At the time of transfer, document any treatment not commenced or incomplete with respect to the agreed treatment plan [in consultation with a clinician at the receiving hospital].

Nursing staff are responsible for:
- Obtaining a full copy of the patient record to accompany the child during transfer, including relevant x-rays scans and pathology. [Note if it is determined that the receiving hospital has eMR then a summary of the full record can be used.]
- Informing the destination hospital (nursing staff) that the patient has left their hospital, with an estimate of arrival time at the receiving hospital.
- Providing a documented discharge/transfer summary to the destination nursing staff.
- If the need for a nurse escort is identified, select appropriately skilled and trained nurses as required to accompany the patient.
- Ensuring a full explanation is given to parent/carer and patient (age appropriate).

Where there is no on-site medical officer, for example in small rural facilities, the most senior nursing staff member should act as a proxy for the medical officer in determining and arranging transfer in consultation with regional/on-call Paediatrician and an appropriate Medical Officer or Paediatric Specialist at a higher level facility.

The physical and emotional wellbeing of the child is paramount at all times and staff should never feel obliged to keep paediatric patients because of pressure from carers or others when the child's clinical needs or safe conditions cannot be met.
NSW Health has published *Clinical Practice* Guidelines for the most common paediatric presentations to the Emergency Department. Decisions about transfer should be consistent with the care described for these specific health conditions; or according to clinical need where no Guideline exists.

Where relevant, contact should be made with the AHS Patient Flow Unit to assist in communication and coordination of transfers. If the patient needs a medical escort or medical retrieval, NETS should be called instead.

5.2 Receiving hospital responsibilities

It is important to ensure that consultations about potential transfer of paediatric patients occurs with appropriate senior clinicians at the receiving hospital. Locally developed protocols must indicate the need for timely involvement of appropriate senior medical staff in decision-making about the need for transfer and the mode of transport required. Protocols should reflect who is responsible for handling paediatric transfer/retrieval calls, and how communication will occur between departments at the referring and receiving hospitals.

The Medical Officer at the receiving hospital should:

- Undertake an assessment of the patient and their condition via phone or telemedicine and document the findings, with consideration of the use of a standardized assessment tool. [see Appendix 3 for an example].
- Provide advice and assistance to the referring Medical Officer and relevant clinicians to ensure that the inter-hospital transfer is appropriate.
- Provide ongoing support to the referring hospital until the transfer occurs.
- Ensure there is an onsite plan of clinical management until the transfer occurs.
- Provide feedback about the retrieval/transfer to the referring facility and a discharge summary to the referring doctor, the child's General Practitioner and allied health and community health staff where relevant.
- Ensure the child's safety at all times with regard to transfer decisions.

Receiving hospitals should provide feed-back and patient outcome information on request to the transporting service (NETS, ASNSW, RFDS)

6 Urgent/emergency transfers

Urgent/emergency transfer applies to children and adolescents:

- Whose condition is critical, serious or unstable;
- Who are at risk of their clinical condition deteriorating during transport and/or whilst awaiting transfer; or
- Who require intensive care.

NETS needs to be consulted in all children with a triage category of 1 and 2 and all children with a triage category of 3 who are not improving.

Whilst awaiting transfer, the child's condition should be continually monitored and re-evaluated.

Clinicians at the transferring hospital need to institute necessary treatment or continue treatment of the child or infant prior to transfer. This includes:

- 1:1 care and close monitoring of the child's condition:
  - Full cardio-respiratory monitoring (pulse, respirations, blood pressure)
  - Temperature
  - Neurological Observations (if clinically relevant)
  - Neuro-vascular (if clinically relevant)
  - Oxygen saturation
  - Blood loss (if clinically relevant)
  - State of consciousness (including Paediatric Modified Glasgow Coma scale or AVPU [in young children]as required)
  - Pain assessment
  - Blood glucose levels for infants and unwell children
  - Hydration
  - Urinary output [weigh nappies to accurately assess UO where relevant].

- Continuation or initiation of treatment as required such as:
  - Oxygen therapy administration
  - Intravenous access, intraosseous access and fluid administration
  - Administration of prescribed medication
  - Pain management
  - Tubes & drains including nasogastric tubes; catheters etc
  - Temperature maintenance/regulation

- Management of wounds/injuries
  - Wound dressing
  - Burn injury – continuation of wound cooling, covering in *clingwrap* according to the NSW Health Paediatric Burn Management Guidelines and advice from a paediatric Burns Unit

- Documentation of care.

6.1 Retrieval

Medical retrieval is the process of transferring critically ill patients using a team that travels to the patient location from a central location or the destination hospital. If medical retrieval is indicated transport and staffing should be coordinated by NETS using:

- The NSW neonatal & paediatric Emergency Transport Service [NETS] – the statewide emergency service for medical retrieval of critically ill or injured newborns, infants and children in NSW [Phone 1300 36 2500], or
- A designated retrieval team from a regional or interstate centre. .

The principles of medical retrieval are to:

- Assist in triaging and local treatment of the clinical problem.
- Send to the place of referral a level of medical expertise akin to that of the destination hospital.
- Assess the clinical problem in the place of referral.
- Stabilise the patient's condition using intensive care therapies prior to transportation.

- Transport the patient with physiological support and monitoring appropriate to their condition.
- Provide uninterrupted surveillance and care from 'bed-to-bed'.
- Be able to deal with foreseeable en route deteriorations as competently as the working environment allows.
- Monitor, document and review the quality of the process.

The NETS team will be sent out by ambulance, helicopter or fixed wing aircraft (determined by location and patient needs).

NETS can link multiple parties by phone to discuss clinical issues. Based on that discussion, an appropriate clinical escort (retrieval team or other escort) will be selected, and a vehicle tasked. NETS may recommend a plan of care to be implemented in the interim until the NETS team arrives. Acute care plans for many conditions are available from NETS. The Medical Officer will document and implement this plan of care. The plan should include appropriate monitoring and surveillance of the patient. If the clinical circumstances change after the initial call [either deterioration or improvement] the Medical Officer must notify NETS to review the transfer plan and/or discuss any appropriate changes in treatment prior to the NETS team's arrival. Area Health Services are responsible for ensuring appropriate resources are available to assist in the management of the deteriorating child until the retrieval team arrives.

Prior to transfer children should be stabilised in accordance with *NETS Guidelines For Facilities For The Stabilisation Of Patients Prior To Medical Retrieval (Appendix 2).*

6.2 Transfer (without Retrieval)

If retrieval is not indicated, but urgent transfer is still required, this can be provided by Ambulance Service NSW, either by road or fixed wing aircraft. Children and adolescents may be transported by Ambulance if their condition is serious but has been sufficiently stabilised by staff at the referring facility. Urgent transfers require a medical, nursing or paramedic escort who is experienced and skilled in paediatric resuscitation and airway management. If uncertain about the type of escort required, discuss with NETS. Medical and nursing staff should consult with Ambulance officers in decisions about transfer and clarify the responsibilities of key staff during the transfer.

7 Non-Urgent Transfer

7.1 AHS Transport Units

Non-emergency inter-facility transfer services are used for transporting admitted patients between health facilities. *Transport for Health* provides the policy framework for this mode of transport. All AHSs have established a Health Transport Unit to assist in coordinating non-urgent health related transport, either via AHS vehicle or NSW Ambulance Service. Referring clinical staff should be familiar with the local procedures for organising non-urgent patient transport through the Health Transport Unit. Non-urgent health transport is indicated if a child is stable but requires care on route, for example:

- Ongoing intravenous therapy, intravenous medication administration or nebulised therapy.

- Oxygen therapy.
- Patient Controlled Analgesia.
- Suctioning.
- There is suspicion of risk, i.e. non-accidental injury.

Non-urgent health transport may or may not require an escort.

7.2 Private transport

The decision to allow private transport [car or taxi] for an inter-hospital transport is the responsibility of the Emergency Clinicians at the destination hospital in consultation with the senior Medical Officer of the transferring hospital and the patient's parent/carer. The transporting parent/carer should consent to this transport method. The Medical Officer should document that the issue has been discussed with the parents and they have agreed to transport the child.

Children and adolescents are *not* to be transported by private car if:

- They are at risk of their clinical condition deteriorating requiring urgent medical care as agreed between the referring and receiving hospitals.
- They require oxygen, suctioning, ongoing intravenous medications or fluids.
- They require any type of emergency procedure.
- They have received paediatric life support measures or intravenous sedative medications.
- They have a fracture which is not stabilised with approved splinting and/or the potential for neurovascular disruption is high.
- Their pain score prior to administrating analgesia indicates moderate or greater pain levels.
- The safety of the child is of concern due to child protection issues.

Children can only be transported in vehicles that have age appropriate safety equipment installed [eg child restraints]. For information about current legislative requirements regarding safety of children in cars go to:
http://www.racv.com.au/wps/wcm/connect/Internet/Primary/road+safety/child+safety/child+restraints/the+law+and+standards+on+child+restraints/

Prior to private transportation the transporting parent/guardian should be instructed not to detour and must have access to:

- Contact details of the destination health facility and staff.
- Directions or maps to the health facility.
- Transfer documents and relevant investigations.
- Information about local car parking facilities.
- A functioning telephone - in the event of an acute deterioration in the child's/infant's condition.

8 Back transfer

It is important that the discharge plan for children and adolescents admitted to a higher-level of care facility includes the option of transfer to their local hospital for ongoing management.

Decisions about transfer back to a local hospital should take into consideration:

- The level of care and service delivery required for the child.
- The role delineation of the local service.
- The availability of appropriate staffing and resources to provide the necessary care for the child.

There should be effective communication between clinicians at the transferring and local hospital to ensure that back-transfers are well planned, timely and enable local clinicians to have the necessary resources available to meet the needs of the child. This is particularly important for children and adolescents with high-level, complex and ongoing needs, physical or intellectual disability, mental illness or a life-limiting illness. The child's local GP [and Paediatrician if involved] is to be informed of any planned transfers and provided with a written discharge summary.

All relevant documentation of the patient's history, treatment and management plan should be forwarded to the local hospital, including guidelines or information to assist staff at receiving hospitals in the care of children and adolescents with complex/ongoing needs [eg tracheostomy; gastrostomy].

9 Parents and carers

The transferring hospital Medical Officer should discuss the need for transfer with the parent/guardian and patient (age-appropriate). Although not specifically requiring informed consent, the plan for transfer should be discussed with the parent/guardian as part of the overall treatment plan for which informed consent was obtained. The parent/carer should be provided with advice concerning:

- The reason for transfer and anticipated time of transfer.
- Mode of transport, approximate travel time and estimated time of arrival at the destination hospital.
- Any treatment that may be required during transport.
- Escort if required.

The parent/guardian must be provided with appropriate information regarding the destination hospital. This information should be provided in writing and include directions to destination hospital and contact details for key staff at the destination hospital. The parent/guardian should continue to be informed on transfer arrangements, particularly if there is change to departure time.

Whenever possible, a parent/guardian should be offered the option of travelling with their infant/child to the destination hospital. Parents/guardians should be informed at the outset that there may be circumstances that prevent them being able to accompany their child, for example due to weight restrictions on aircraft.

10 Definitions

Child	Age up to 16th birthday
Parent/Primary carer	Parent/s or person living with the child and assuming legal responsibility for, and providing direct care. This includes birth parent, step-parent, foster parent, legal guardian, custodial parent or safe and appropriate primary care giver.
Inter Area hospital transfer	Transfer of a paediatric patient to a facility in another Area Health Service or interstate.
Intra Area hospital transfer	Transfer of a paediatric patient to another facility in the same Area Health Service
Back-transfer	The transfer of a paediatric patient following presentation or treatment at another facility within or outside the Area Health Service for the purpose of continuing care closer to home.
Transferring hospital	The hospital identifying the need for and initiating the transfer
Destination hospital	The hospital to which the child or infant is being transferred
NETS	The Newborn & paediatric Emergency Transport Service which transfers all infants, children and adolescents who are condition critical/serious/unstable/at risk of deterioration or requires intensive care.
Health Transport Unit	Unit established in all AHSs to coordinate health related transport. Each AHS will have local protocols for using the Health Transport Unit to assist with inter-hospital transfers.
Retrieval	Medical retrieval is the process of transferring critically ill patients using a team that travels to the patient location from a central location or the destination hospital.
Role delineation	Role delineation is a process which determines what support services, staff profile, minimum safety standards and other requirements are provided to ensure that clinical services are provided safely and appropriately supported. The role delineation of a service describes the complexity of the clinical activity undertaken by that service, and is chiefly determined by the presence of medical, nursing and other health care personnel who hold qualifications consistent with the defined level of care. (NSW Health 2003)

Paediatric Safe Bed

Not all facilities will have a paediatric unit, however, all children must be cared for in a *paediatric safe bed*. A *paediatric safe bed* is a bed that can be located anywhere within a facility [Including ED, Imaging, or a general ward] that meets the criteria for ensuring the safety of the child.

A paediatric safe bed must meet the following minimum conditions:

- Must be able to be observed appropriately in line with the child's clinical acuity.
- The bed area must be immediately accessible to paediatric specific emergency equipment.
- Must have a dedicated staffed nursing station with sufficient nurses allocated per shift to ensure adequate supervision and care relevant to admitted patient acuity.
- Nursing staff caring for the child must be familiar with local NSW Health paediatric guideline protocols and be competent in using recognition of the sick child skills and tools.
- Nurses caring for children and adolescents during prolonged observation [as prescribed in relevant policies/protocols] should have skills equivalent to that of the 'competent paediatric nurse' as defined in the document *Competencies for the Specialist Paediatric and Child Health Nurses* [available at: http://www.accypn.org.au/downloads/competencies.pdf
- Must be physically safe for children and adolescents with any potentially dangerous equipment, medications, chemicals or fluids out of reach or in locked cupboards.
- Has appropriate furniture that is child safe and meets appropriate Australian Standards for children. e.g. appropriate cots for children 2 years of age or less.
- Parents/visitors must not take hot drinks to children's bedsides.
- The facility should comply with the requirements of the NSW Breastfeeding Policy for the care of paediatric patients and support continued breastfeeding among infants and children by providing facilities and breastfeeding advice to mothers as well as breast milk collection and breast milk storage facilities. Provision must be made for the safe preparation of infant formula if necessary.
- It should be possible for parents or primary carers to stay with their children during admission.
- Parent's current contact details must be ascertained at presentation.
- Other patients in the hospital must not pose a significant psychological, physical or sexual risk to the child.
- Basic equipment should be present to allow age appropriate play, for example a TV and video/DVD/games console with age appropriate media, books or board games.

Paediatric Safe Ward/area	In addition to the criteria outlined above for paediatric safe beds, a *paediatric ward/unit/area* must also meet the following minimum conditions: • Must be functionally separated from any adult patients preferably with a secured door that cannot be opened by young children. • Must be covered by a 24-hour medical roster with doctors credentialed in the care of paediatric patients. • Must have a designated Paediatric NUM. • Parents or primary carers should have access to bedside sleeping facilities and ideally a kitchenette with fridge and microwave to allow them to provide for their own and children's nutritional needs when appropriate. • Physical safety requirements must include regulated hot water temperature and secure electrical outlets • Must have facilities available to allow age appropriate play including a designated and appropriately equipped play area.

11 Appendix 1: Criteria for calling NETS — Infants & Children

Source: www.nets.health.nsw.gov.au

NETS Clinical Coordination receives calls about children with life–threatening or potentially life–threatening conditions. A NETS team or adult medical retrieval team may be selected for certain older children depending on the nature of the clinical problem and the availability of resources. This decision is the responsibility of the paediatric intensive care consultant.

The following are conditions that NETS would normally expect to be called about and then possibly retrieve:

1. Head injury (symptomatic).
2. Altered level of consciousness (for any reason).
3. Hypoxia despite oxygen therapy.
4. High oxygen requirement.
5. Respiratory failure (e.g. bronchiolitis, severe asthma, apnoea)
6. Upper airway obstruction.
7. Near drowning (especially with neurological depression or respiratory symptoms).
8. Ingestion with risk of circulatory, airway or neurological compromise.
9. Envenomation.
10. Burns (see Department of Health Burns Transfer Guidelines July 1996)
    a) > 10%
    b) Encircling the neck or involving the airway, face, hands, feet, perineum, or inner joint surfaces.
    c) Associated other significant injury
    d) Electrical or chemical burns
11. Seizures (with persisting neurological depression)
12. Major trauma (including spinal injury)
13. Metabolic disturbance Eg.
    a) Diabetic Keto–acidosis
    b) Acidæmia
    c) Severe biochemical abnormality
14. Heart failure or Arrhythmia (symptomatic)
15. Shock (requiring treatment with volume replacement or inotropes) eg.
    a) Blood or fluid loss
    b) Dehydration
    c) Septicæmia
16. Other causes of neurological depression:
    a) CNS infection
    b) Acute Life Threatening Episode
17. Any condition with the potential for sudden cardiovascular or neurological deterioration.

Team composition options for pædiatric retrieval include:

1. NETS team
2. Adult team (metropolitan)
3. Adult team (regional).
4. Combination of the above.

While a NETS team transports the majority of older children, there are alternative options for selecting a team. However, only a NETS team can transport a sick newborn or infant. Therefore, at times of high team usage, NETS teams are preferentially committed to newborns and infants.

12 Appendix 2 – Guidelines for Facilities for the Stabilisation of Patients prior to Medical Retrieval

These Guidelines are issued to assist Hospitals using a medical retrieval team to transfer a patient requiring intensive care. It sets out the resources that are required for the safe and efficient stabilisation of patients of all ages. These resources are required at those hospitals at or above role delineation Level 2 for Maternity Services (newborn infants) and at or above Level 1 for all other age-groups.

These Guidelines are designed to assist referring hospitals offer optimal care using the combined resources of the referring hospital and the retrieval team to manage, stabilise and prepare patients for transport.

The Guidelines were developed by NETS in collaboration with the Medical Retrieval Unit, regional advisory/retrieval services and referring hospitals.

Background

Guidelines were first issued in 1997 for newborn patients to promote an effective mechanism for the stabilisation prior to transfer, from referring hospitals. It was recognised that the scope of these Guidelines needed to be expanded to offer advice encompassing all age groups and include new aspects of clinical networking such as telemedicine. Accordingly, this document covers all age groups.

Space

It is acknowledged that not all hospitals will be able to immediately provide the physical space specified in this Guideline. Hospitals are advised that, if there is currently no suitable space within the ED, ICU, children's ward or neonatal nursery, alternative resuscitation areas can be provided in an appropriate area. However, when a hospital is being refurbished or rebuilt, the requirements listed in this circular should be followed and reference made to the functional space requirements contained in the current "Health Facility Guideline".

Where specific essential equipment items listed below are not available at present, provision should be made to include these items in forward planning cycles as soon as possible.

Ventilatory Support

Facilities that have medical officers formally trained in managing ventilated patients may have ventilators capable of supporting Adults, Children, Infants and Neonates - depending on caseload of patients requiring ventilatory support. Where such ventilators are available, they must be complemented by the capacity to measure airway pressure, expiratory tidal or minute ventilation, and end tidal CO_2 (or skin CO_2 monitoring).

Medical Imaging facilities

If medical imaging facilities are available in the referring facility, an X-Ray viewing box or Picture Archiving and Communication System (PACS) system must be in a location that allows use without losing visual contact with the patient. In addition, diagnostic images of the patient must be available to accompany the patient to their destination hospital.

Pathology Services

If Pathology Services are available in the referring facility, a viewing system to check pathology results must be in a location that allows access without losing visual contact with the patient.

REQUIREMENTS - for Stabilisation of Patients Prior to Medical Retrieval

Essential Facilities
• An area or room that can be dedicated to the patient for retrieval and the workings of the Team (minimum size 21m² child/adult; 15m² for a newborn). This area may be created from existing areas for those occasions when a medical retrieval team is present, for instance, by temporarily combining two patient care areas into one. • Easy, uncluttered access for a stretcher or hospital trolleys used by the retrieval team (size 900mm x 2000mm) from hospital to patient care area without obstruction to other functions. • Procedure light (angle-poise type) • Resuscitation trolley with appropriate drugs and equipment for those age-groups being treated • Infant resuscitation trolley (open care system for body weight < 5kg): o Integrated overhead lighting o Variable radiant heat source o Swing-away hinge for overhead modules for mobile x-ray access o Space available for retrieval team module to be positioned adjacent and at right angles o Polyethylene wrap for very preterm infants (< 28 weeks gestation) • Panel fixtures: o Oxygen x 2 (reticulated preferred, cylinder supply will suffice in some locations) o Medical Air x 2 (reticulated preferred, cylinder supply will suffice in some locations) o Suction x 2 (one regulated for low/controlled suction, one high flow (reticulated supply and second high flow preferred) o Body-protected GPOs x 10 (2 for retrieval team use, 8 for referring hospital equipment) • Height adjustable trolley to facilitate the loading and unloading of the patient/transport stretcher/medical equipment • Counter, bench top or table (min. 550 x 1200mm) for additional treatment equipment • Wash sink, soap dispenser, paper towel and alcohol/chlorhexidine hand rub dispenser • Waste receptacle of large capacity with large aperture orifice; positioned close to resuscitation area • Sharps disposal container, preferably mobile • Procedure trolley (900mm x 450mm minimum) • Ice packs for therapeutic cooling • Telephone: o Capable of direct call to relevant retrieval services (without using an operator) o Handset usable at the bedside of the patient (may use cordless technology) o Programmed for 1-key dialling to Regional Advisory/Retrieval Service, NETS, MRU o Capable of direct in-dial with that number displayed on handset prominent • Facsimile machine: o In a location that allows use without losing visual contact with the patient o Programmed for 1-key dialling to Regional Advisory/Retrieval Service, NETS,MRU o Capable of direct in-dial with that number displayed on device prominently • Photocopier with contrast and brightness adjustment • Digital camera for clinical photography (including simple connection to computer for file transfer)
Desirable Facilities
• Lighting to meet standards of operating theatre, with adjustable intensity • Infant resuscitation trolley (open care system for body weight < 5kg): o In built frame for X-Ray plate positioning without disturbing the patient for contact-less imaging • Computer: o In a location that allows use without losing visual contact with the patient o That allows access to clinical email services o That allows access to approved clinical web-based services (eg. CIAP, NETS, etc.) o That allows electronic transmission of digital images o That allows rapid access to relevant policies and procedures for care and retrieval • Capacity to export clinical data from local information systems to retrieval coordination centres and/or receiving hospitals • Capability of continuously monitoring a patient's ECG, pulse oximetry and automated non-invasive blood pressure measurements • Interview room readily accessible to resuscitation area, for family conferences

Source: NETS, 2006

13 Appendix 3: Sample assessment tool for receiving hospitals

Time □□:□□ Date □□/□□/□□ Caller_____Hospital_____

Patient Name_____M / F Callers Ph No_____

Stated Problem_____

DOB □□/□□/□□ Time of Birth □□:□□ BW □□□□g / Wt □□kg
Apgar Scores 1□ 5□□ _□□ Score deficits -
Gestational age □□weeks
Vital Signs
Temp □□.□ pa/pr/tymp Warming methods?
HR □□□ Cap refill ____secs Pulses_____
RR □□□ Resp effort – Recession / Grunt / Tug / Flare
O2 □□lpm, How Delivered? FM / NP / NRB / HB / Bag and Mask
BP □□□/□□□ BSL □□.□mmols/l
Pupils_____ GCS □□ A V P U / Activity /Tone _____
Current Management

Airway Support Guedel's / NP Airway / ETT Size_____@lips_____cm's

Ventilated - Rate_____ PIP_____PEEP_____ MV/TV_____FiO_2_____

IV or IO_____**Gastric Tube**_____ X-ray_____

Fluid type_____Fluid Rate____mls/hr Bolus_____mls

Drugs Given _____
Advice / Plan

Appearance (colour)

Pulse

Grimace (response)

Activity (tone)

Respiration

Call end Time □□:□□ Taken by_____Sign_____

14 Appendix 4: Acknowledgement

The NSW Department of Health extends its appreciation to the members of the Paediatric Inpatient Advisory Working Group for their input, advice and assistance in production of this document.