SECTION 7

TRANSPORT AND DISPOSITION

	Page
Intra-Hospital Transfer *T. Nguyen Ma / M. Parr*	243
Transferring Patients out of Liverpool Hospital *J. Martin*	247
Patient Disposition *S. D'Amours*	251

Intra-hospital transfer of critically ill patients includes transfer of patients from ED to ICU, ICU to radiology, ICU to theatre, and ICU to ward.

Regardless of the final destination, the principles of transport of critically ill patients are the same. These can be thought of in terms of the 3 P's:

1. **Planning.**
2. **Personnel.**
3. **Properties.**

PLANNING
This includes determining the reason, risks and benefits of the transfer by assessing the clinical status of the patient and if necessary making changes and / or asking for senior staff assistance.

Planning also includes communication with the receiving end. Give them the estimated time of arrival (ETA) and make sure that they are ready to receive the patient and are aware of the patient's needs e.g. oxygen, ventilator, power points, infusion pumps, etc.

As intra-hospital transfers are usually of short duration, a point can be made of removing all the unnecessary equipment (NG feed, CVP monitor, excess lines) so that you do not get lost in the maze of lines and tubes.

PERSONNEL
The personnel required for the transfer depend on the patient to be transported.
If a medical escort is required, the doctor is in charge of the transfer.
If a medical escort is not required the RN is in charge.

Indications for a medical escort are:

- Patient with a potential airway problem
  - intubated
  - tracheostomy with ventilatory support.
- Patient with potential cardiovascular instability.
- Nursing staff worried about the patient.

PROPERTIES
Dedicated equipment for transport must be checked and functional.

The level of monitoring required for the transport of the patient depends on the patient's stability. For unstable patients the level of monitoring should be as comprehensive as it is in ICU, while for the stable patient no monitoring may be required e.g. patient going to the ward.

Basic monitoring devices are an ECG, non-invasive BP, and a pulse oximeter.

Equipment required for intra-hospital transfer is:

- Oxygen cylinder at least ¾ full.
- Airway and intubation equipment.
- Manual self-inflating ventilation bag.
- Suction devices.
- Emergency drugs, analgesics, sedatives, and muscle relaxants.
- Warmed crystalloid +/- colloid, blood.
- Infusion pumps. These must be charged and power cord available to plug in the wall.
- Defibrillator if there is a potential for arrhythmias.
- Chest clamps if underwater chest drains are present.
- Notes, x-rays, request forms, consent form.

Intra-hospital transfer of critically ill patients with little physiological reserve may have a negative outcome for the patient and in these patients there must be a good reason for the transport. To make the transfer as smooth as possible, preparation is essential and ask for senior staff advice and/or assistance.

REASONS FOR TRANSFER

1. Specific injury pattern (e.g. burns, spinal cord injury).
2. Paediatric patient requiring intensive care or high dependency support.

Prior to contacting another unit ensure you have available information concerning name, DOB, time of injury, nature of injury, treatment to date, current vital signs, estimation of weight, reasons for referral.

1. SPECIFIC INJURY PATTERN

a. Burns

Hospitals are asked to ensure that consultation takes place at presentation for patients fitting criteria for referral to specialist burns units. Hospitals are also encouraged to consult with burns units for advice and assistance at any stage (see next page).

- Deep Burns involving:
  10% or more of the body surface area in adults,
  or
  5% or more of the body surface area in children.
- Burns to the face, hands, feet, perineum, inner joint surfaces, and inhalation injury.
- Burns and any of the following: major pre-existing disease, suspected child abuse, concomitant injury.
- Electrical and chemical burns.

- The *NSW Health Guidelines for the Retrieval of the Critically Ill* must be consulted when deciding which patients may require retrieval (MRU and NETS guidelines displayed in resuscitation room). Refer to Page 294 for retrieval criteria for burns patients.

  If the patient fits retrieval criteria, NETS or the MRU will assist with bed finding. If the patient does not require retrieval the designated adult burn referral centres are Concord and Royal North Shore Hospital.

  Concord Hospital
  Royal North Shore Hospital
  Children's Hospital Westmead

  For Burns hospitals contact details see page 297.

b. Spinal Injury

The designated adult spinal injuries units are Prince Henry / Prince of Wales Hospital and Royal North Shore Hospital. Ring either hospital and ask for spinal registrar or consultant on:

Prince Henry / Prince of Wales	**9382 2222**
Royal North Shore Hospital	**9926 7111**

For paediatric referrals call NETS.

2. PAEDIATRIC REFERRALS:

Contact NETS on 1300 362 500

SECTION 7

You will be teleconferenced with a NETS retrieval consultant, a medical officer from the accepting institution (a fellow, intensivist or emergency physician) and the NETS transport medical officer. This service will assist you in ongoing management and bed finding if required.

3. ADULT TRANSFER DUE TO LACK OF ICU / HDU BED:

Local resources should be exhausted prior to requesting transfer. In particular the intensive care consultant on call must be involved in the decision to request transfer to another ICU. Each metropolitan Area Health Service is ultimately responsible for meeting the intensive care needs of that Area.

"If difficulty is experienced in locating an appropriate intensive care bed after consultation with the Area's traditional referral intensive care unit(s), or if clinical advice is required, the Medical Retrieval Unit and a duty Medical Retrieval Consultant are available to assist" *NSW Department of Health Circular No. 97/118*.

For adults contact the Medical Retrieval Unit on 1800 650 004.

You will be teleconferenced with the Medical Retrieval Officer +/- the accepting institution.

In all situations the Trauma Team Leader is responsible for the patient from the time the patient arrives in the resuscitation bay and is handed over by the pre-hospital care providers. The Trauma Team Leader remains responsible until the patient's care is handed over to another individual.

The trauma team is led by the ED registrar for the first half of the month and by the ICU resuscitation registrar for the second half of the month. ICU, ED and Trauma Surgical consultants, the Trauma Fellow and surgical registrar will also lead the trauma team when required and then assume all of the responsibilities of the position.

UNSTABLE OR CRITICALLY INJURED AND LEAVING THE ED

All unstable patients should not leave the resuscitation bay unless going to the operating theatre.

All critically injured patients and patients who are intubated, ventilated, have invasive monitoring or otherwise potentially requiring medical intervention must have a doctor and nurse escort. Most often this is the Trauma Team Leader. This role can only be delegated to another doctor who would otherwise be qualified to lead the trauma team. These movements may be to theatre, radiology or the ICU.

In general, the patient is accompanied by the registrar leading the trauma team, regardless of whether the patient is likely to go straight to theatre or elsewhere following investigations. On occasion, the ICU registrar will assume responsibility for the patient after the secondary survey (even if not team leading) if it is likely that the patient will be going straight to ICU afterwards. Conversely, if it is likely that the patient is going to be transferred soon (e.g. critically injured paediatric and burns patients), then the ED registrar will take responsibility and care for the patient during investigations and in the resuscitation bay until the transport team arrives.

STABLE PATIENTS

Once the trauma team has completed the secondary survey, trauma series of x-rays and devised an investigation and treatment plan, patient stability can usually be ascertained. The stable patient can leave the emergency department for investigation or to go to the ward or theatre unaccompanied only if they are entirely stable.

Patients who have multiple injuries but are otherwise stable and not intubated or ventilated, patients who are uncooperative, or patients going to the CT scanner may go with an appropriately skilled nurse escort and orderly as long as a responsible doctor who knows the patient is available to respond quickly if needed.