The Trauma Hotline facilitates the interhospital transfer of seriously injured trauma patients from any hospital within South Western Sydney Area Health Service (SWSAHS) who require transfer to Liverpool Hospital. As the designated Major Trauma Service in the area health service, Liverpool Hospital has a responsibility to accept all major trauma patients from SWSAHS, regardless of ICU or HDU bed availability[1,2].

All trauma patients, including paediatric and those with spinal cord injury, are accepted. If there is no ICU bed available at Liverpool, we will accept the transfer, stabilise the patient on arrival, and organise further transfer as required.

ICU REGISTRAR'S ROLE FOR HOTLINE CALLS:

The Hotline call comes via the switchboard on a dedicated line. The ICU resuscitation registrar will receive the following message on their pager: "83012 TRAUMA HOTLINE CALL". The switchboard operator will document (on the Hotline Log) the referring doctor's or nurse's name, ICU registrar's name, patient's name, and the length of time taken for the ICU registrar to respond. WE AIM TO LIMIT THE WAITING TIME TO LESS THAN 2 MINUTES.

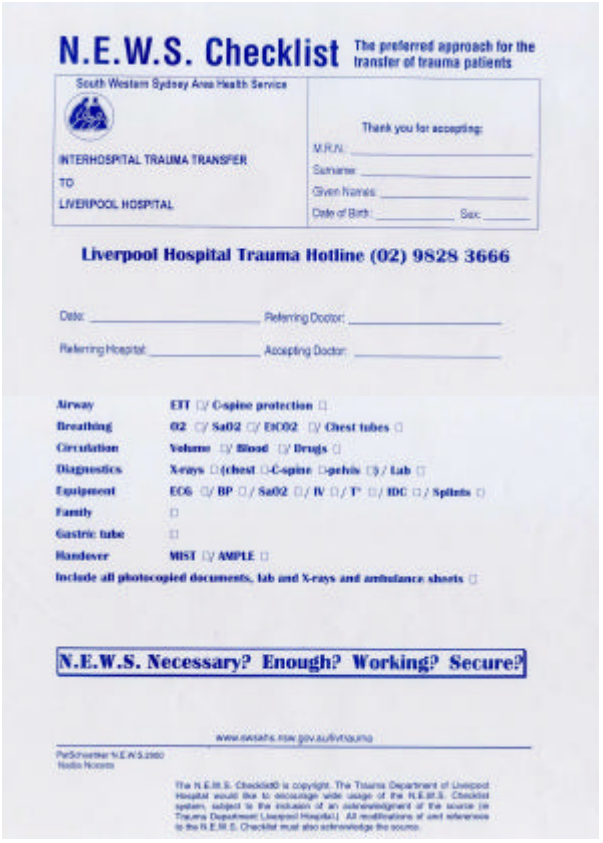
The resources - both physical and human - at other hospitals are easily overwhelmed when faced with serious trauma and the referring doctor or nurse should not be made to wait on the phone for any extended period of time.

As the ICU resuscitation registrar, you will be responsible for taking all Hotline calls during your shift. If you know you will be busy with a procedure, or if you are attending an emergency elsewhere, you must make arrangements for your pager to be answered immediately by another doctor for the period you will be unavailable.

We aim to limit the number of calls made between the referring hospital and Liverpool Hospital to one – i.e. one call made by them to effect the transfer, and one call back to them if required. Some complicated trauma cases may require more communication, however, please be mindful of the limited personnel available at most other hospitals in the area.

You should obtain all necessary information - the referring hospitals should hand over using the 'MIST' acronym (see page 27). The referring doctor should also describe all resuscitation information (primary and secondary survey), and all definitive care information (e.g. intubation / ICC / drugs etc.). To ensure the patient is well packaged and ready for transfer please ask the referring hospital to complete the *NEWS Checklist* and to place all relevant documentation and x-ray films in the *NEWS Checklist Envelope* (Figure 1).

Figure 1



N.E.W.S. Checklist

The preferred approach for the transfer of trauma patients

South Western Sydney Area Health Service

INTERHOSPITAL TRAUMA TRANSFER

TO

LIVERPOOL HOSPITAL

Thank you for accepting:

M.R.N.: _____

Surname: _____

Given Names: _____

Date of Birth: _____ Sex: _____

Liverpool Hospital Trauma Hotline (02) 9828 3666

Date: _____ Referring Doctor: _____

Referring Hospital: _____ Accepting Doctor: _____

Airway	**ETT** □/ **C-spine protection** □
Breathing	**O2** □/ **SaO2** □/ **EtCO2** □/ **Chest tubes** □
Circulation	**Volume** □/ **Blood** □/ **Drugs** □
Diagnostics	**X-rays** □ (**chest** □-**C-spine** □-**pelvis** □) / **Lab** □
Equipment	**ECG** □/ **BP** □ / **SaO2** □ / **IV** □ / **T°** □ / **IDC** □ / **Splints** □
Family	□
Gastric tube	□
Handover	**MIST** □/ **AMPLE** □

Include all photocopied documents, lab and X-rays and ambulance sheets □

N.E.W.S. Necessary? Enough? Working? Secure?

www.swsahs.nsw.gov.au/livtrauma

From the time of first contact from the referring hospital, the patient is your responsibility as well as the responsibility of the staff currently managing the patient. This remains to be the case until the patient arrives at Liverpool and is handed over to the trauma team in the resuscitation room.

PAEDIATRIC TRAUMA

With regards to paediatric trauma, Liverpool Hospital will accept the patient, stabilise and if necessary transfer to a children's hospital. Upon consultation, both you and the referring doctor may feel the child will be better served if taken directly to a children's hospital. If there is any doubt, accept the patient for transfer to Liverpool Hospital.

BURNS TRAUMA

All burns trauma should go directly to a Burns Unit from the referring hospital. The referring doctor should be advised to contact a Burns Unit directly (see page 297).

RETRIEVAL SERVICE – MEDICAL RETRIEVAL UNIT (MRU)
1800 650 004

If retrieval is to be organised to transport the patient to Liverpool, then it is your duty to contact the Medical Retrieval Unit (MRU – above number) and supply all the details. The MRU will ring the referring hospital to make further arrangements and obtain further details as necessary. As per policy you must consult the ICU consultant on call if for some (very good) reason the patient cannot be accepted, or if air transport is to be used in the retrieval [1].

PREPARING LIVERPOOL

Your next obligation is to prepare Liverpool Hospital for the incoming trauma. ED is to be notified as all trauma transfer patients enter the ED as first port of entry into Liverpool [3]. The patient will have a trauma team activation, and a full primary and secondary survey repeated on

arrival. Notify and prepare all relevant specialties – orthopaedic, general surgery, neurosurgery, cardiothoracic, Trauma Fellow, etc. as required. Also notify radiology and theatres as indicated- this is especially important after hours, but necessary at all times as the departments may need time to clear a CT room / theatre suite, bring in more staff, etc.

MONITORING THE HOTLINE

The Regional Trauma Nurse Coordinator may contact the resuscitation registrar and the referring doctor or nurse to assess the transfer. Any issues raised regarding the transfer will be discussed, investigated, resolved and documented.

NEWS. CHECKLIST

The NEWS Checklist was devised by the Liverpool Hospital Trauma Department to facilitate the transfer of trauma patients from the urban centres in SWSAHS to Liverpool Hospital. It is designed to be used as a quick but comprehensive guide for the packaging of trauma patients for transfer. All photocopied notes and x-rays are placed in the NEWS Checklist Envelope, and the whole package is sent to Liverpool Hospital with the patient. All trauma transfers from within SWSAHS should arrive with the envelope; all EDs have received the envelopes and have been instructed on its use.

NEWS is a mnemonic for:

Necessary
Enough
Working
Secure.

With each of the points on the list, the staff at the referring hospital is to ask the “NEWS” questions, and address each aspect as they assess and stabilise the patient for transfer (Figure 2).

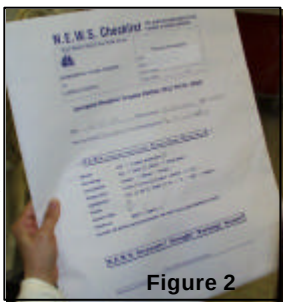


Figure 2

E.g.: A - Airway:

- Is any airway intervention **Necessary** for this patient? i.e. is an ETT necessary?
- Is the intervention **Enough**? i.e. is a NRB mask enough, or should the patient be intubated?
- Is the intervention **Working**? i.e. is the tube fully patent? Is the patient being adequately ventilated? Are there any kinks in the tubing? Are there any cuff leaks?
- Is the intervention **Secure**? i.e. has the ETT been adequately tied?

The staff then goes through the list and checks each individual item, assessing each one in the same manner using the NEWS system.

REFERENCES:

1. Liverpool Hospital Intensive Care Unit, *Intensive Care Medical Orientation Handbook*, 2001, Sydney.
2. National Road Trauma Advisory Council, *Report of the working party on trauma systems,* 1993, Department of Health, Sydney.
3. O'Connor PM, Steele JA, Dearden CH, Rocke LG and Fisher RB. The accident and emergency department as a single portal of entry for the reassessment of all trauma patients transferred to specialist units. *J Accid Emerg Med*, 1996: 13(1); 9-10.

COMMUNICATIONS

Communication is a pivotal aspect of trauma care. Trauma management requires prompt decision making but decisions in isolation are fraught with problems. Therefore, succinct and accurate communications are a vital component of good trauma care.

PRE-HOSPITAL

All pre-hospital communications should follow the "MIST" format and be completed in less than 30 seconds.

M	**M**echanism of Injury
I	**I**njuries
S	Vital **S**igns
T	**T**reatment

It is important that information transfer follows this format to maximise preparation of the trauma team in the resuscitation room.

If the patient has a pre-hospital SBP <90mmHg or has other critical injuries requiring early surgery, the Trauma Surgeon on call must be notified before the patient reaches hospital.

IN-HOSPITAL

Wear your name badge in the resuscitation area and introduce yourself to the team as soon as possible. This ensures the Trauma Team Leader knows to whom to direct questions or instructions. It also creates an environment whereby the Airway Doctor knows the nurse, the Procedure Nurse knows the doctor, and so on. This allows smooth functioning of the resuscitation and promotes team interaction.

Communication to other sectors of the hospital is crucial in the proper management of trauma cases including clear communication to the following:

- Radiology extension 83454
- Theatre extension 84404 - 24 hours a day
- Anaesthetist on duty 84405 or speed dial 2927 after hours
- Hospital Switchboard “9” to inform other key members who may be required.

Remember, it is not adequate to ask the switchboard to locate an individual without identifying its urgency and that they must get back to you. Occasionally the busy switchboard will not be able to locate an individual or might leave a message on a mobile phone not realising the priority of the situation.

ALWAYS SEEK HELP FROM A SECOND CONSULTANT IF THE ONE YOU REQUEST IS NOT AVAILABLE.

The hospital switchboard will oblige if adequately informed of the urgency of the situation leaving you free to continue resuscitation of the patient.

Care, however, must be exerted in relation to multiple communications with different specialties. Avoidance of the C.O.C.U.P. must be considered. The C.O.C.U.P. (Consortium of Care for Urgent Priorities) occurs when multiple disciplines are asked to offer management advice with no clear leader. The Trauma Registrar and Trauma Surgeon are directly responsible for the patient's care, and as such, the overall responsibility for the patient lies with them specifically.

BETWEEN HOSPITALS

Interhospital trauma transfer requests are one of the more challenging communications as strangers must communicate clearly and quickly regarding situations that can often be life threatening. At Liverpool Hospital we accept ALL requests for admission to the hospital for major trauma. This is our designated role as a major trauma service, even if we are full. The request should come through the Trauma Hotline (see previous chapter) if the patient potentially requires high dependency or ICU treatment.

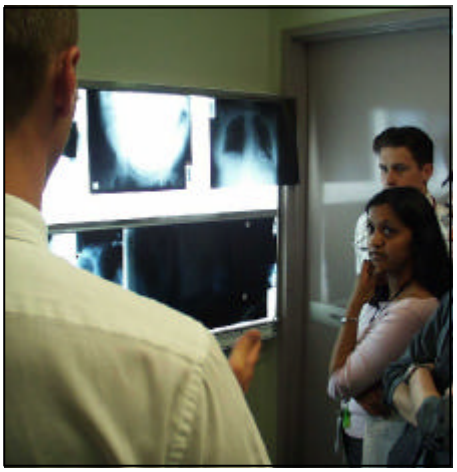
If the patient has an isolated injury such as a digital nerve transection – transfer can be organised directly with the relevant subspecialty. The majority, however, fall into the Hotline category. It is important that individual specialty registrars do not accept patients with multisystem trauma. They should direct the referring doctor through to the trauma Hotline, recommending they use the NEWS Checklist transfer system to facilitate transfer.

Effective communication allows minimal duplication of work, an aware team and optimal patient care.

SECTION 1

DAILY

Radiology Rounds: A review of all trauma films for patients admitted over the preceding 24 hour period. Weekdays only, in Radiology at 0830h.



Ward Rounds: After individual patient review by the trauma medical students, each admitted trauma patient is seen and examined by the medical students and Trauma Fellow. Daily at 1000h.

SECTION 1

WEEKLY

Trauma / ICU Intake Rounds: All trauma patients admitted over the weekend to any of the critical care areas are reviewed on a round by the Trauma Director, Trauma Fellow, registrars, and medical students. The trauma medical students present the patients on this round. Mondays at 1100h commencing in ICU1.

Trauma Student Rounds: An interesting case is presented by the Trauma Fellow for an interactive session focusing on specific common problems in trauma patient care and assessment. Tuesday afternoons in the Emergency Department tutorial room or the trauma resuscitation room.

Trauma Audit: A detailed review and critique of the resuscitative and definitive care phases of individual trauma patient admissions. This audit is an interactive multimedia presentation. It is organised by the Trauma Fellow, presented by a registrar and chaired by a rotating roster of staff specialists in Surgery, Emergency, Anaesthesia and Critical Care as well as the Trauma Fellow. Thursday mornings in the Education Centre at 0729h; breakfast served.

Trauma / Critical Care Grand Rounds: An ICU trauma patient is presented by one of the trauma medical students, and interesting aspects of his or her care are reviewed in an interactive style with ICU staff, the Trauma Director and Trauma Fellow. Friday afternoons in ICU1 at 1330h.

Trauma Ward Nursing Rounds: Ward trauma patients are presented by the trauma nursing staff and issues pertaining to ward care and nursing are reviewed. Afternoon tea is served. Friday afternoon in the Conference Room at 1400h, 3rd Floor of the Clinical Building.

MONTHLY

Regional Hospital Rounds: Regional Hospitals in the South West Sydney Area Health Service have a trauma education session on a rotating basis roughly every 4 to 6 weeks. These sessions are arranged and attended by the Regional Trauma Nurse Coordinator and Trauma Fellow. Contact Regional Coordinator for exact schedule page 48552.

OTHER

SWAN Trauma Conference: This two-day conference involves trauma care providers from all phases of care: pre-hospital, doctors, nurses, paramedical professions and more. Invited speakers are some of the biggest international names in trauma care today. The conference topics are directed at a broad range of interesting, current and controversial areas of trauma care. The annual SWAN (South Western Area Network) Trauma Conference is held in early August each year. Information on topics, invited speakers and registration details are available from the Department of Trauma Services by February each year. Early registration is encouraged, as numbers are limited.

DSTC (Definitive Surgical Trauma Care) Course

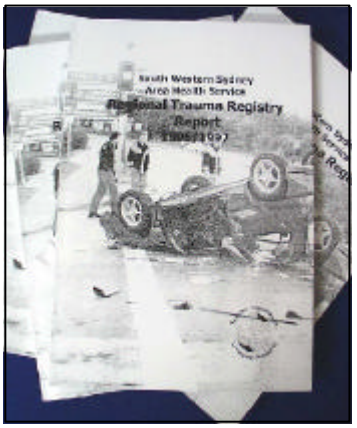
The DSTC course is designed to assist surgeons in their involvement in acute surgery and decisions relating to serious trauma. It assumes all of the ATLS®/EMST principles and builds on them. If EMST deals with the "first hour", this course will deal with the "second hour". It is a response to the lack of written material and teaching on strategic issues of surgical resuscitation, early definitive care and surgical priorities. One aim of the DSTC course is to refine and promote an international standardised course package. Course dates are available from the Trauma Department at Liverpool Hospital.

Trauma Service Orientation: These sessions are held twice yearly for new registrars to Liverpool Hospital. All registrars from Surgery, Critical Care, Anaesthesia and the Emergency Department are required to complete the package which involves didactic, interactive and web-based units vital to the understanding of the process of trauma care at Liverpool Hospital. This manual also serves as a primary source of information for registrars along with the orientation package. Schedule and dates available from each Department prior to term commencement.

Contact Details

Trauma Department, Liverpool Hospital
Locked Bag 7103, Liverpool BC NSW 1871
Phone: 02 9828 3038
Facsimile: 02 9828 3926
Website: http://www.swsahs.nsw.gov.au/livtrauma

TRAUMA REGISTRY



All trauma admissions since September 1994 to Liverpool and the other five hospitals in SWSAHS are captured in the Regional Trauma Registry.

A comprehensive data set is maintained on injuries to head, internal organs, major long bone and pelvic fractures or patients with injuries to more than one body region. This includes patient demographics, pre-hospital interventions, resuscitative care and interventions, progress within the hospital system, operations, complications and an analysis of outcomes. There is a minimal data set on skeletal or soft tissue injuries to a single body region.

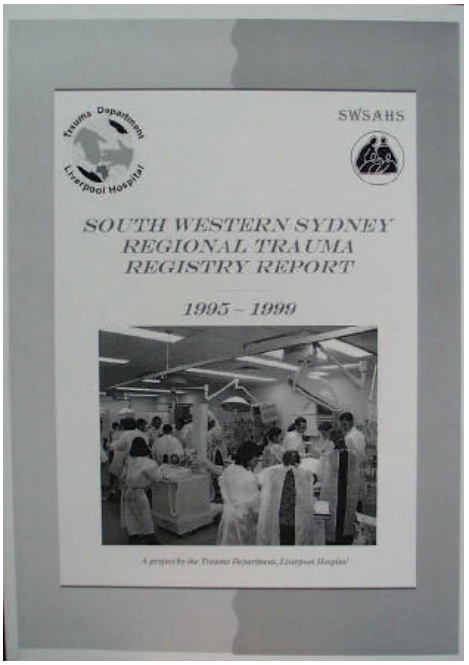
Information is obtained prospectively at Liverpool and retrospectively at urban and rural hospitals. Documentation accuracy and completeness is vital to allow comprehensive data collection. Registry Reports are published at regular intervals. The 5 year report (1995-1999) was published in 2000 and is available from the Trauma Department.

Request for information can be obtained from the Trauma Department on 02 9828 3038.

The Trauma Registry has produced two major reports on Trauma:

1. South Western Sydney Area Health Service
   Regional Trauma Registry Report 1995 - 1997
   ISBN 1 875909 63 X
2. South Western Sydney Area Health Service
   Regional Trauma Registry Report 1995 - 1999
   ISBN 1 875909 88 5

The 5 year report is available on our website
http://www.swsahs.nsw.gov.au/livtrauma/reg_stat/default.asp



SECTION 1