

SECTION 1**TRAUMA SERVICE OVERVIEW AND
ADMINISTRATION**

	Page
Liverpool Hospital and Southwest Sydney <i>M. Sugrue</i>	3
Departments <i>E. Caldwell</i>	7
Service Area <i>N. Nocera</i>	13
Trauma Hotline <i>N. Nocera</i>	21
Communications <i>S. Wilson & M. Sugrue</i>	27
Education <i>S. D'Amours</i>	31
Trauma Registry <i>E. Caldwell</i>	35

SECTION 1

LIVERPOOL HOSPITAL AND SOUTHWEST SYDNEY

Chapter 1

SECTION 1

Liverpool Hospital is the designated major trauma service for the South Western Sydney Area Health Service (SWSAHS). It serves the population of South Western Sydney (in excess of 750,000) acting as a referral hospital for one rural and four urban hospitals: Fairfield, Campbelltown, Camden, Bankstown and Bowral. As the major trauma service we are here to serve, rather than manage our urban and rural colleagues. Our mission is to optimise trauma patient care in the region. To achieve this we must strive to be a world leader in trauma care aiming to improve communication and ensure patient outcomes are continuously monitored and improved.

Map of South Western Sydney Area Health Service



In 1992 the New South Wales (NSW) trauma plan designated eight major trauma services in metropolitan Sydney, one of which was Liverpool Hospital. This trauma service has recently successfully undergone the formal verification process of the Royal Australasian College of Surgeons Trauma Committee. This was the first hospital to do so in Australasia. We, at Liverpool, have a commitment to learning, teaching, quality assurance, performance improvement and a desire to impart common sense and a practical approach to optimising trauma care.

The Trauma Department consists of a Trauma Director, Deputy Director, Trauma Fellow, Trauma Nurse Coordinator, Regional Trauma Coordinator, Trauma Case Manager, Trauma Data Manager, and secretarial support. We also have a part-time Research Assistant, and Project Officers from time to time. We are privileged to have a visiting Honorary Fellow, and visiting final year and 4th year medical students in trauma.

To maintain our standards in trauma care we undertake some key performance improvement activities:

1. Clinical teaching and orientation, which is multidisciplinary in nature, is now available on our website:

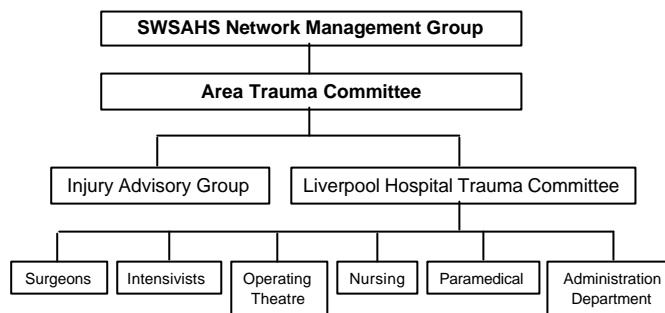
www.swsahs.nsw.gov.au/livtrauma



The Trauma Department itself does not look after individual trauma patients, rather facilitates the liaison with individual specialists in different disciplines who bear the direct responsibility of patient care.

2. The Trauma Audit is a weekly meeting on Thursdays commencing at 0730h for 30 minutes, it is designed to afford the opportunity for learning through, in general, positive reinforcement of issues that occur on a weekly basis.
3. Our Registry and data collection system allows us to collect performance indicators on the process and delivery of trauma care at the hospital and throughout the area. On a monthly basis the registrars in surgery are given feedback on their performance in relation to key indicators. The indicators and the thresholds for reasonable performance are available in the South Western Sydney Regional Trauma Registry Report 1995 - 1999, or on our website under "Registry".
4. The Trauma Service facilitates a number of committees (see chart next page) which include:
 - (a) Hospital Trauma Committee – direct responsibility for the process of day to day hospital trauma care.
 - (b) South Western Sydney Area Health Service Trauma Network Management Group – direct area responsibility for the process of trauma patient care.
 - (c) South Western Sydney Area Trauma Committee – a confidential process of peer review of trauma deaths.
 - (d) The Injury Advisory Committee – a peer group involved in the development of Better Practice Guidelines for the area.

The Trauma Department at Liverpool Hospital is responsible to the Division of Surgery and the Hospital Administration.

CHART OF SWSAHS AREA TRAUMA COMMITTEE**VISITING TRAUMA MEDICAL STUDENTS**

Medical students in their 4th and final year may opt for an elective in trauma, the following requirements need to be observed:

1. Registration with the Medical Board of NSW needs to take place.
2. A criminal record check needs to be completed.
3. Registration with the hospital for identification badges and key access.
4. The following provides some guidelines in relation to the code of conduct of students in trauma:
 - Universal precautions must be taken when in the resuscitation room once the red line has been crossed.
 - No photography can be undertaken without approval of the Trauma Director and that of the patient, and our staff.
 - Access to the Trauma Department is generally allowed on a 24 hour basis subject to Department Head approval.
 - Complimentary Trauma Manual is provided.
 - Access to computers is permitted with Department Head approval.

The following are departments or facilities frequently and actively involved in trauma patient care at Liverpool Hospital. The roles of some of their members are highlighted to demonstrate their frequent involvement with the trauma system and its patients.

TRAUMA DEPARTMENT

Director / Deputy Director

Responsible for planning, directing and implementing systems to ensure optimum delivery of care is provided to trauma patients in SWSAHS.

Trauma Fellow

Coordinates the activities and outcomes of trauma by the provision of leadership and expert skills. Supports other roles within Liverpool and urban / rural hospitals by teaching, supervising, researching and providing feedback. Monitors patients' progress and outcome. Major role in resuscitation is to plan patient care / investigations with surgical registrar and Trauma Team Leader.

Surgical Registrar

Is responsible for the detailed examination of the patient after the primary survey is completed, coordinating surgery and communication with specialty teams. When experienced, will make decisions regarding definitive management.

Trauma Clinical Nurse Consultant (CNC)

Coordinate the activities and outcomes of trauma by the provision of leadership and expert clinical advice to patients, carers and other health care professionals. Monitors patients' progress and outcome. Reports adverse events, errors in care and near misses.

Trauma Case Manager

Assists as required during trauma team activations. Follows patients with specific injuries, to monitor implementation and validation of clinical pathways. The Trauma Case Manager also plays a significant liaison role allowing better continuity of patient care.

Trauma Data Manager

Maintains registry of trauma admissions to SWSAHS. Collects and reports on patient demographics, injury details, diagnostic and treatment interventions, and outcomes.

Regional Trauma Coordinator

The Regional Trauma Nurse Coordinator (RTNC) is responsible for the monitoring and coordination of regional trauma and Area Health Service Injury Management Programs in close collaboration with the Trauma Director and the Area Trauma Committee. Areas of responsibility:

- Collects data and reviews trauma management and outcomes for regional trauma admissions.
- Monitors Trauma Hotline, NEWS Checklist and all SWSAHS interhospital transfers.
- Reviews all transfers to Liverpool Hospital.
- Consults with regional nursing and medical staff re: trauma management and transfer, providing feedback.
- Trauma education to regional hospital staff.
- Follow up trauma transport decisions and liaises with ambulance personnel.

EMERGENCY DEPARTMENT (ED)**Emergency Registrar**

Responsible for overall coordination, documentation and placement of patient. Assists with resuscitation in the primary and secondary surveys. If the patient does not require admission, assumes overall care. Takes on role of Trauma Team Leader for the first half of every month.

Staff Specialist in ED

Acts as a resource for the ED registrar and as Trauma Team Leader or Airway Doctor as required by the situation.

ED Nurses

Form the nursing core of the trauma team, acting as Airway Nurse, Procedure Nurse and Scribe. For multiple traumas more nurses are recruited from ED as needed.

**INTENSIVE CARE UNIT (ICU)****ICU Registrar**

When responsible for airway management should remain with the intubated patient (includes visits to CT) until final placement. Is responsible for allocating ICU beds in consultation with senior ICU staff. Also has a major role in answering Trauma Hotline calls and ensuring rapid and safe interhospital patient transfers.

ICU Consultant

Utilised by the ICU registrar to provide backup and as a resource for difficult critical care related problems. The ICU consultant is also involved for any ICU or HDU admission / consultation of major trauma patients.

ICU Nurses

Ongoing care of critically ill trauma patients.

OPERATING THEATRE (OT)**Anaesthetic Registrar / Anaesthetic Consultant**

Available for anticipated or difficult airway management problems.
Available on extension 84405 or speed dial 2927 after hours.
Contact early when surgery anticipated. Pre-hospital SBP <90 mandates notification of anaesthetic registrar.

Operating Theatre (OT) Coordinator

Contact as soon as decision is made to operate on a patient so that theatre staff can organise a room and equipment. As the OT coordinator is part of the trauma pager group, ensure that theatres are "stood down" should an operation not be required. **Available on extension 84404.**

SUBSPECIALITIES

Neurosurgical, Orthopaedic, Cardiothoracic, Plastic, Vascular, Urology and Paediatric specialties will attend promptly as required. Contactable via switchboard.

RADIOLOGY**Radiographer**

Responds to resuscitation room as part of trauma team activation. Positions portable x-ray machine. Supine chest, pelvis and lateral c-spine x-rays are the routine trauma series.

Radiologist

Available through switchboard and can review films by a teleradiology link. If urgently required or for interventional procedure advise as early as possible to permit transport time to hospital.

Radiology Registrar

Assists consultant radiologist. Will immediately interpret films when contacted directly.

**LABORATORY**

Rapidly ensures patient cross match. Ensure request for blood availability is made early if need is anticipated. Also responsible for rapidly processing arterial blood gases and evaluation of DPL effluent.

SECTION 1

All the hospitals within South Western Sydney Area Health Service (SWSAHS) offer different acute levels of trauma service according to resources.

BANKSTOWN HEALTH SERVICE

ED:

- Level 5 designation (see Appendix Page 16)⁽¹⁾.
- 1 full time Director, and
- 2 full-time equivalent (FTE) staff specialist positions covering day and evening shifts (no night duty staff specialist cover). Amount of staff specialist cover varies from day to day and on different shifts.
- 1800 – 0800 one senior Career Medical Officer (CMO), Resident Medical Officer (RMO) and intern staff mix.
- **No formal trauma team.**
- **ED has individual roles for resuscitation.**

Theatre:

- 8 functional suites, 2 endoscopy rooms.
- Fully staffed 0730 – 2300.
- On-call nursing staff within 10 mins distance.
- 24 hours on-site anaesthetic registrars.

ICU:

- 1 full time Director in hours.
- After hours 1 dedicated registrar and 1 dedicated resident.
- 7 ICU / 4 HDU beds.
- Does not accept any complex trauma cases.
- Accepts short and long-term ventilated patients.

Pathology:

- 0700 – 2400, then on-call.
- Blood bank facilities available on call after hours.

Radiology:

- 24 hour radiographer on site.
- CT 0800 – 1800, then on call service.
- U/S 0830 – 1730 then on call service.

BOWRAL HOSPITAL**ED:**

- Level 3 designation⁽¹⁾.
- No Director.
- 1 Medical Officer (MO) in ED at all times – the only on site MO in whole hospital.
- Weekends and Public Holidays (PH) (and pre-recognised busy times) extra MO 1200 – 2000 in ED.
- Physician (Director of Clinical Services) is on site in hours and available to attend emergencies as needed.
- **No formal trauma team.**
- **ED has protocols for trauma patients.**
- Every shift at least one senior ED nurse with post graduate ED Certificate, TNCC and / or ARC qualifications on duty.

Theatre:

- 2 suites fully staffed 0730 – 1800, then on call nursing staff within 30 mins distance.
- Weekends 0800 – 1700, then on call.
- Anaesthetists within 30 mins distance.

HDU:

- 8 beds.
- No Director.
- Can accept only 1 ventilated patient short-term 12 – 20 hrs.

Pathology:

- 0800 – 1800 weekdays, then on call.
- 0900 - 1700 weekends, then on call.
- Blood bank facilities available on call after hours.

Radiology:

- On-site fully private practice – radiologists / radiographers / ultrasonographers and CT operators.
- 0800 - 1800 weekdays, then on call.
- 0900 - 1700 weekends, then on call.
- After hours all services available on call.
- Radiologist reporting available 24 hrs via teleradiology.

CAMDEN HOSPITAL**ED:**

- Level 3 designation⁽¹⁾.
- 0800 – 1800 1 Medical Officer (MO) ED
- 0730 - 1600 1 RMO in the wards, 1 RMO rehab, and 1 part-time palliative care registrar.
- 1800 – 0800 1 locum, CMO or RMO in the hospital, stationed in ED.
- 1 off-site Director (Director of Campbelltown ED).
- **No formal trauma team.**

Theatre:

- Day surgery only, weekdays 0800 - 1800 (no weekends).
- All trauma surgery cases transferred to either Campbelltown or Liverpool Hospitals.
- No emergency surgery done at all.

ICU:

- No ICU services available.
- 4 bed HDU.
- No ventilator capacity (oxylog for ED and transfers).

Pathology:

- 0830 – 1630, then on-call blood bank facilities available only.
- Urgent bloods for analysis go to Campbelltown Hospital 1630 - 2400 via courier or taxi.
- 2400 - 0830, all pathology goes to South Western Area Pathology Service (SWAPS).

Radiology:

- 0900 – 1700, then on call.
- All CT and U/S performed off-site.

CAMPBELLTOWN HOSPITAL**ED:**

- Level 5 designation⁽¹⁾.
- 1 full-time Director (who is also the Camden ED off-site Director), and
- 1 full-time staff specialist ED weekdays.
- 2 part time emergency paediatric specialists.
- CMO senior cover 0800 – 2400, then locums.
- **No formal trauma team.**
- **ED has a resuscitation team response.**

Theatre:

- 3 main suites, 2 day surgery suites and 1 procedure room.
- Weekdays 0600 – 2300, then on call staff.
- Saturdays 0930 – 1800, then on call staff.
- Sundays 0830 – 1730, then on call staff.
- Nursing and anaesthetic staff within 30 mins distance.

ICU:

- No Director. 1 dedicated registrar per shift.
- 4 ICU / 8 Coronary Care Unit (CCU) beds.
- No complex trauma cases accepted.
- 2 ventilator capacity either short or long term.

Pathology:

- 0730 – 2400, then on call.
- Blood bank facilities available on call after hours.

Radiology:

- 0800 – 0100, then on call.
- CT and U/S 0800 - 1700, then after hours on call, subject to operator availability and radiologist approval.

- Radiologist on site 0800 - 1700 weekdays.
- Planning for: 24 hour radiography; also angiography subject to radiologist availability.

SECTION 1

FAIRFIELD HEALTH SERVICE

ED:

- Level 4 designation⁽¹⁾.
- 2 part-time Directors weekdays (1 FTE), covering all weekdays except Tuesdays.
- 0800 - 1800 2 staff specialists (incl. Directors) Monday / Tuesday / Wednesday.
- 1 staff specialist (Director) Thursday and Friday.
- CMOs 0800 – 2200, then locums (7 days).
- **No formal trauma team response.**

Theatre:

- 4 suites 0830 – 1730, then on call.
- Nursing staff within 30 mins distance, anaesthetists on call, on site.

ICU:

- 1 Director.
- 4 ICU / 5 CCU beds.
- No complex trauma cases accepted.
- Short term ventilator patients only – either overnight or up to 24 hrs.

Pathology:

- 0800 – 2400, then on-call blood bank facilities available only.
- Urgent bloods for analysis go to Liverpool Health Service.

Radiology:

- 0800 – 2400, then on call.
- CT 0800 - 1700 weekdays, then 1700 - 2400hrs only non-contrast head CT performed. No CT after 2400hrs.
- U/S 0830 – 1630, no on call facility available for U/S.

APPENDIX: ED DESIGNATION DESCRIPTION⁽¹⁾

Level 1: No planned Emergency service. First aid treatment only. Access to medical practitioner.

Level 2: Emergency service in small hospital. Designated assessment and treatment area. Limited resuscitation and stabilisation capacity. Visiting Medical Officer (VMO) on call, nurses from ward available to cover emergency presentations.

Level 3: As level 2 plus designated ED nursing staff (some with relevant postgraduate studies), and Nurse Unit Manager (NUM). 24 hr access to MO on-site or within 10 mins distance. Full resuscitation facilities in separate room. Specialist consultation for general surgery, anaesthetics, paediatrics and medicine. Access to Clinical Nurse Consultant (CNC) and liaison psychiatry. Qualified Medical Director Pathology, radiology and operating theatres during normal hours, and on-call after hours. Education programs for nursing and medical staff.

Level 4: As level 3 plus stabilisation and assisted ventilation, and definitive care for most patients. Director with emergency training and experience. Experienced ED nursing and medical staff 24 hrs on-site, at least 1 RN per shift with postgraduate emergency qualifications. Specialists on-call 24 hrs for ICU, general surgery, orthopaedics, anaesthetics and medicine. 24 hr psychiatry liaison. Formal nursing and medical educational programs. Access to CNC and Clinical Nurse Educator (CNE). 24 hr access to pathology, radiology and operating theatres.

Level 5: As per level 4. Medical Director, FACEM (Fellow of the Australasian College of Emergency Medicine) accredited. Access to CNC and CNE. Has designated ACEM (Australasian College of Emergency Medicine) accredited registrar, ED staff specialists 16hrs / 7days. 24hr on-call emergency consultant cover. 24 hr psychiatry liaison. Extended hour access to allied health (social work services and physiotherapy).

Level 6: As per level 5 plus neurosurgery and cardiothoracic surgery

on-site. Sub-specialists available on rosters. Advanced subspecialty registrar on-site 24 hrs. After hours roster for ED staff specialists 24 hrs / 7 days. Frequent major trauma and other emergency capacity. Invasive monitoring and short term ventilation. Designated Nursing Director and / or NUM 24 hrs. Provides advice and stabilisation for complex cases transferred from other network hospitals. Active research program. CT and nuclear medicine available on-site.

REFERENCE:

1. Ieraci S, O'Connell J. *Emergency Department Services Plan* (NSW Government Action Plan). NSW Health Department, Sydney. 2001.

SECTION 1