NSW HEALTH
DEPARTMENT

CIRCULAR

	File No	97/1750
	Circular No	2002/105
	Issued	27 November 2002
	Contact	Ms Linda Smart (02) 9391 9526 Statewide Services Development Branch

EARLY NOTIFICATION OF SEVERE TRAUMA IN RURAL NEW SOUTH WALES

This Circular and publication supercede Circular 97/54.

The NSW State Trauma Plan (1991) described the development of regional networks in rural NSW to improve the management of severe trauma. Trauma bypass is not always appropriate in rural areas where the distances and travel times involved are much greater. Therefore, the Early Notification of Severe Trauma or Rural Trauma Triage program was developed.

The early notification process combines the use of a pre-hospital trauma triage tool, a rural hospital emergency department triage tool and response, a regional response based on the NSW Rural Critical Care Networks and if necessary a state response co-ordinated by the Medical Retrieval Unit of the Ambulance Service of NSW.

Early notification of severe trauma commenced implementation in 2001, at varying levels, across rural Area Health Services. The guidelines for early notification have been revised, based on issues identified following the 2001 implementation. The revision has been undertaken by members of the NSW Rural Critical Care Committee, NSW Critical Care Council, Medical Retrieval Unit and Ambulance Service of NSW.

The revised document 'Early Notification of Severe Trauma in Rural New South Wales' aims to improve the management and the outcomes for victims of severe trauma in rural NSW and support and develop critical care services.

All rural hospitals must immediately have in place written protocols for the recognition, notification and response to severe trauma in rural areas.

Hard copies of Early Notification of Severe Trauma in Rural New South Wales are available from Statewide Services Development Branch on (02) 9391 9470 or online from NSW HealthNet.

Robyn Kruk
Director-General

Distributed in accordance with circular list(s):

A	104	**B**		**C**	86	**D**		**E**	
F		**G**		**H**	68	**I**		**J**	49
K		**L**		**M**		**N**		**P**	

73 Miller Street North Sydney NSW 2060
Locked Mail Bag 961 North Sydney NSW 2059
Telephone (02) 9391 9000 Facsimile (02) 9391 9101

In accordance with the provisions incorporated in the Accounts and Audit Determination, the Board of Directors, Chief Executive Officers and their equivalents, within a public health organisation, shall be held responsible for ensuring the observance of Departmental policy (including circulars and procedure manuals) as issued by the Minister and the Director-General of the Department of Health.

Early Notification of Severe Trauma in Rural NSW

Circular 2002/105

CIRCULAR

NSW HEALTH
Working as a Team

NSW HEALTH DEPARTMENT
73 Miller Street
North Sydney NSW 2060
Tel. (02) 9391 9000
Fax. (02) 9391 9101
www.health.nsw.gov.au

This work is copyright. It may be reproduced in whole or in part
for study training purposes subject to the inclusion of an acknowledgement
of the source. It may not be reproduced for commercial usage or sale.
Reproduction for purposes other than those indicated above, requires
written permission from the NSW Department of Health.

© NSW Health Department 2002
Cover image © Media Equation Pty Ltd 2002

SHPN (SWS) 020125
ISBN 0 7347 3446 8
Circular 2002/105

A full copy of this report can be downloaded
from the NSW HealthWeb site:
www.health.nsw.gov.au

November 2002

Contents

Background 1

The need for a system of Early Notification of Severe Trauma in Rural NSW – 'the right patient in the right hospital at the right time'.................2

Summary – the system for Early Notification of Severe Trauma in Rural NSW..3

Criteria for classifying the trauma management capabilities of rural hospitals in NSW.................................4

'Non-designated protocol 4' (non-DP4) hospitals......4

'Designated protocol 4' (DP4) hospitals.....................4

'Referral' hospitals...5

Alterations to the classifications of rural hospitals.....................6

Details – the system for Early Notification of Severe Trauma in Rural NSW...7

Recognition – pre-hospital 7

Recognition – at-hospital rural Emergency Department....................................7

Protocol for patient destination from the accident site...8

Notification 8

Response 9

Evaluation and monitoring of the system for Early Notification of Severe Trauma in Rural NSW 11

Summary flow charts

Pre-hospital activation (protocol 4 of the NSW Ambulance Service) 12

At-hospital rural Emergency Department activation..13

Functions of the Ambulance Operations Centre with respect to Early Notification of Severe Trauma 14

Appendices

Appendix 1 – tasking a helicopter to a prehospital scene in NSW................................17

Appendix 2 – destination protocol for severe trauma patients when a helicopter is already on scene 19

Appendix 3 – NSW Health – delineation of the roles of Area Health Services and hospital Emergency Departments 21

Background

In 1991 NSW Health introduced the State Trauma Plan and trauma triage into the Sydney metropolitan Area Health Services.

In March, 1992, the pre-hospital component of this plan was activated.

This component involved the introduction of a NSW Ambulance pre-hospital protocol (protocol 4) which involved using a triage tool and under certain circumstances bypassing some suburban hospitals so that seriously injured patients were delivered to their definitive care hospitals sooner. This system proved to be very successful at improving patient outcomes.

The State Trauma Plan also described the development of critical care networks in rural NSW to improve the management of severe trauma. This concept was developed further with the release of the of a Rural Critical Care Plan in 1993.

This plan of NSW included an outline of the process of Early Notification of Severe Trauma (ENST) as a key component in the management of severe trauma in rural areas. This system was trialed in rural NSW in 1993.

However it became apparent from this trial and subsequent trials that significant modifications were necessary to incorporate factors which are specific to rural areas. In particular:

1. The classification of rural hospitals in relation to their severe trauma management capabilities was in need of revision.
2. The concurrent development of helicopter services in rural areas was having an impact on trauma management and this needed to be incorporated into the early notification system.
3. The early notification process can be initiated either *pre-hospital* by ambulance officers at an accident scene, or *at hospital* by rural hospital Emergency Departments (eg some major trauma patients arrive at rural hospital Emergency Departments by private transport).
4. Rural hospital Emergency Departments needed to develop a uniform set of criteria for initiating the early notification process.

This most recent document on the ENST in rural NSW is the result of lengthy discussions involving the NSW Rural Critical Care Committee, the NSW Ambulance Service and its Medical Retrieval Unit, and local rural ambulance officers and doctors.

This document has also had input from the NSW Trauma Systems Advisory Committee of NSW, the NSW Trauma Institute and the NSW Critical Care Council.

In broad terms this document has two aims:

1. **To improve the management and the outcomes for victims of severe trauma in rural NSW.**
2. **To support and develop rural critical care services.**

The need for a system of Early Notification of Severe Trauma in Rural NSW – *'the right patient in the right hospital at the right time'*

Trauma management systems in NSW metropolitan areas include bypass of some hospitals so that patient's with severe trauma are taken straight to their definitive care hospitals.

However, trauma bypass is *not* always appropriate in rural areas where distances and travel times are much greater.

Patients with severe trauma in rural NSW often need to be managed in a series of *stages* at a number of different hospitals and this requires the cooperation and coordination of many key players such as ambulance personnel, rural district hospitals, rural base hospitals, regional retrieval services, and state retrieval services.

An *example* of how this staged process might operate for a patient with severe trauma in rural NSW is:

- ambulance officers at a rural accident scene assess, extricate, treat and facilitate transport of the patient
- when the patient arrives at a rural district hospital[1], skilled rural general practitioners and nurses further assess and stabilise the patient
- meanwhile a retrieval team may have been tasked to go to that hospital.
- the patient is then transported to a rural base hospital for their next level of care, eg urgent surgery to stop haemorrhage
- finally, the patient may then require a level of care which can only be provided by a metropolitan teaching hospital, eg spinal injuries, and this will require further transportation of the patient.

Early notification of the key players in this process will allow for streamlining and minimisation of delays and as a consequence will benefit the patient's management and outcome.

[1] How this hospital is chosen is discussed in detail later in this document, and depends on many factors such as the site of the accident, the distances to hospital, transport times, and the hospitals' trauma management capabilities.

Summary – the system for Early Notification of Severe Trauma in Rural NSW

This process combines the use of a pre-hospital trauma triage tool, a rural hospital Emergency Department triage tool, a regional response based on the NSW Rural Critical Care Networks and if necessary a state response coordinated by the Medical Retrieval Unit (MRU) of the NSW Ambulance.

The system has *five components*:

Pre-hospital recognition

This involves the use of a triage tool by NSW Ambulance personnel at rural accident scenes to help determine which trauma patients are potentially severe. This triage tool is part of protocol 4 (P4) of the NSW Ambulance.

Determining patient destination from the accident scene

This is done according to a pre-determined protocol developed by the NSW Rural Critical Care Networks and the NSW Ambulance Service.

For the purposes of this protocol every rural hospital in NSW has been classified as either 'non-designated protocol 4 (non-DP4)', 'designated protocol 4 (DP4)', or 'referral' (see pages 4 & 5 for further details).

This classification is based on:

- the level of care that each hospital's Emergency Department can provide based on *NSW Health's Role Delineation* document
- the medical and nursing resources available at these hospitals
- usual clinical practice and referral patterns
- times and distances involved for *road ambulance* transport of patients with severe trauma.

Recognition at the rural hospital Emergency Department

In rural areas it may not become apparent that a patient has suffered potentially severe trauma until the patient arrives at a rural district hospital Emergency Department.

This may be because:

- the patient has been taken to the Emergency Department by private transport

  or

- the patient has deteriorated during ambulance transfer. These transfers can sometimes be quite lengthy because of the large distances involved.

Notification

This involves notifying appropriate personnel, facilities and retrieval services as soon as possible.

In the pre-hospital setting this is the responsibility of the Ambulance Operations Centres and the MRU.

In the rural hospital setting this is the responsibility of the rural hospital Emergency Department's.

Response

This involves the appropriate mobilisation of clinical resources within the rural critical care network or, when required, outside the rural critical care network.

Criteria for classifying the trauma management capabilities of rural hospitals in NSW

These criteria have been devised to ensure that patients with severe trauma are delivered to facilities where their most immediate needs can be met.

These criteria were devised following a long consultative process involving the NSW Rural Critical Care Networks and the NSW Ambulance Service.

Every rural hospital in NSW has been classified as either 'non-designated protocol 4' , 'designated protocol 4', or 'referral'.

'Non-designated protocol 4' (non-DP4) hospitals

Patients with *minor* trauma *will* be taken to these hospitals, if they are the closest, in accordance with usual practice.

Patients with *severe* trauma will only be taken to these hospitals if:

- they are dying (as assessed by the on-scene ambulance officer)
  or
- there is going to be an unexpectedly long delay in getting the patient to the DP4 hospital. In such cases, a retrieval team will have been tasked and will be in transit to the non-DP4 hospital.

These hospitals are required to have a Level 2 Emergency Department (see Appendix 3), as defined by *NSW Health's Role Delineation* document.

In addition these hospitals are also required to have:

- an assessment and treatment area
- a doctor available for consultation (not necessarily on-site)
- registered nurses available.

'Designated protocol 4' (DP4) hospital

These are hospitals where patients with severe trauma will be taken to have their initial stabilisation phase completed prior to their transfer to a referral hospital.

If however the referral hospital happens to be the 'closest in time' hospital then the patient will be taken straight to the referral hospital.

The concept of the 'closest in time' hospital can vary with the mode of patient transport.

For example, if a helicopter is at an accident scene and the patient is not at immediate risk of dying the patient may be taken straight to the referral hospital. (See Appendix 1 – tasking a helicopter to a prehospital scene in NSW and Appendix 2 – destination protocol for severe trauma patients when a helicopter is already on scene.)

DP4 hospitals are required to have a level 3 Emergency Department (see Appendix 3) as defined by *NSW Health's Role Delineation* document.

In addition these hospitals are also required to have:

- a doctor on-call who has undergone or who is undertaking relevant post-graduate training in trauma management (eg an EMST course) and who can assess and support a patient's airway and breathing
- a doctor on-call who is willing upon P4 notification, to attend the Emergency Department before the patient arrives
- registered nurses available who have completed or who are undertaking relevant post-graduate training in the area of trauma management (eg the TNCC course)
- a process in place by which the Ambulance Operations Centre is routinely notified if the on-call doctor becomes unavailable.

'Referral' hospitals

These are hospitals where patients with serious trauma will be taken to have their definitive treatment.

These hospitals will usually be rural base hospitals, but may be a metropolitan teaching hospital for those rural areas which are geographically adjacent to a metropolitan area health service.

These hospitals require a level 4 or 5 Emergency Department as defined by *NSW Health's Role Delineation* document (see Appendix 3).

These hospitals also require a minimum of a level 4 anaesthetic service, a level 4 ICU service, and a level 4 surgical service as defined by *NSW Health's Role Delineation* documents.

Some referral hospitals will have a dual function depending on the location in which the trauma occurs: for example, if the site of the accident is equidistant between a DP4 hospital and a referral hospital, the patient should be taken to the referral hospital. The referral hospital will perform both the patient's initial stabilisation (a 'DP4 function') and their definitive treatment (a 'referral' function).

The above 3 sets of criteria should be regarded as minimum criteria. Some rural critical care networks, through their critical care committees, may decide to adopt more stringent criteria.

Alterations to the classification of rural hospitals

This classification of each NSW rural hospital as 'non-DP4', 'DP4', or 'referral', may change from time to time as staffing and resources at these hospitals change.

The need for a change of classification may become apparent through a variety of channels, eg local ambulance, local hospital administration, and network critical care consultants or committees.

Requests for reclassification of rural hospitals must be approved by the NSW Rural Critical Care Committee, the NSW Critical Care Council, and the NSW Ambulance Service. Requests for a change of designation should be addressed to the Chairman of the NSW Rural Critical Care Committee.

Details – the system for Early Notification of Severe Trauma in Rural NSW

Recognition – pre-hospital

Early notification of severe trauma commences with prehospital triage by the on scene NSW ambulance officers. Application of a prehospital triage tool enables the identification of trauma patients that are at high risk of having serious injury. These patients are identified on the basis of their vital signs and injuries.

The prehospital triage tool was developed by the Ambulance Service of NSW in consultation with the NSW Critical Care Advisory Committee. This triage tool has been approved for use by the Medical Advisory Committee of the Ambulance Service of NSW.

The early notification process will be activated if a trauma patient fulfils any of the following criteria:

Vital sign abnormalities

- Respiratory distress – resp. rate of <10 or >30 or cyanosis.
- Systolic blood pressure <90 or no palpable radial pulse in children.
- Requires at least 'shake and shout' to rouse or falling level or consciousness in adults or any depression of level of consciousness in children.

Types of injuries

- Serious trauma to any body region, this refers to:

Penetrating injury:	head, neck, chest, abdomen, perineum or back.
Head:	1 or 2 dilated pupils, open head injury, severe facial injury.
Chest:	subcutaneous emphysema, major flail segment.
Abdomen:	distension, rigidity.
Spine:	weakness, sensory loss.
Limb:	vascular injury with ischaemia of limb, amputation, crush injury of limb or trunk, bilateral femur fractures.

- Burns partial thickness or full thickness >20% in adults or >10% in children.

Consideration may also be given to activating the early notification process in certain high risk situations, eg:

- vehicle crash >60 km/hr
- major deformation of vehicle
- fatal injury in same vehicle
- fall from height >5 metres
- patient ejected from vehicle
- child/cyclist/pedestrian hit by a vehicle >30 km/hour
- injuries to multiple body regions.

Note: The trauma triage tool is deliberately designed to have an expected over triage rate. This is to capture a greater percentage of seriously injured patients who may not initially present with significant physical injury in the prehospital situation.

Recognition – at-hospital rural Emergency Departments

In rural areas it may not become apparent that a patient has suffered potentially severe trauma until the patient arrives at a rural district hospital Emergency Department. This may be because:

- the patient has been taken to the Emergency Department by private transport

  or
- the patient has deteriorated during ambulance transfer. These transfers can sometimes be quite lengthy because of the large distances involved.

Rural district hospital Emergency Department's will notify their doctor on-call and activate the early notification process as soon as it becomes apparent that a trauma patient fulfils any of the following criteria:

Vital sign abnormalities

- Respiratory distress – resp. rate of <10 or >30 or cyanosis.
- Systolic blood pressure <90 or no palpable radial pulse in children.
- Requires at least 'shake and shout' to rouse or falling level or consciousness in adults or any depression of level of consciousness in children.

Types of injuries

- Serious trauma to any body region, this refers to:

Penetrating injury:	head, neck, chest, abdomen, perineum or back.
Head:	1 or 2 dilated pupils, open head injury, severe facial injury.
Chest:	subcutaneous emphysema, major flail segment.
Abdomen:	distension, rigidity.
Spine:	weakness, sensory loss.
Limb:	vascular injury with ischaemia of limb, amputation, crush injury of limb or trunk, bilateral femur fractures.

- Burns partial thickness or full thickness >20% in adults or >10% in children.

Rural district hospitals may further develop their own criteria but these criteria should contain all of the above as a *minimum*.

Protocol for patient destination from the accident site

The Ambulance Operations Centre in conjunction with the on-scene ambulance officers will make a patient destination decision based on a pre-determined protocol.

There are rare circumstances where the patient's destination may be altered from that of the pre-determined protocol but this should only occur following consultation with the regional retrieval service and/or the Medical Retrieval Unit.

Examples of such factors that may alter patient destination from that of the predetermined protocol include:

- prevailing weather and road conditions. These may be such that it is not possible to reach the usual DP4 hospital in a safe and timely fashion
- it may become apparent that a doctor is unexpectedly not available at the DP4 or non-DP4 hospital
- the mode of transport. For example, a helicopter may be called primarily to an accident scene. (See Appendix 1 – tasking a helicopter to a prehospital scene in NSW and Appendix 2 – destination protocol for severe trauma patients when a helicopter is already on scene.)

Notification

For pre-hospital activations

The Ambulance Operations Centre for the area will notify the:

- destination hospital and ascertain the availability of a doctor
- Medical Retrieval Unit (MRU)
- on scene ambulance officer to confirm the patient destination. This destination may change if it has been ascertained that a doctor at the 'DP4' hospital or the 'non-DP4' hospital has unexpectedly been found to be unavailable.

The Medical Retrieval Unit will:

- notify the regional retrieval service if one is operational
- mobilise an appropriate metropolitan based retrieval service if a regional retrieval service is not operational. This may be an adult or paediatric service depending on the circumstances
- liaise with the receiving staff at the non-DP4, DP4 and referral hospitals
- establish a phone conference link-up between the MRU, the DP4 doctor on-call, the referral hospital doctor on-call, and the appropriate retrieval service. At this conference, priorities on type of retrieval (road, helicopter or fixed wing aircraft) and probable destination of patient(s) will be decided.

For at-hospital rural Emergency Department activations

The rural district hospital Emergency Department will notify the:

- doctor on-call and ask them to attend
- regional retrieval service if one is available or if not, the MRU.

The Regional Retrieval Service will:

- liaise with the staff at the receiving hospital
- mobilise a retrieval team when needed
- liaise with the MRU.

The Medical Retrieval Unit will:

- mobilise an appropriate metropolitan based retrieval service if a regional retrieval service is not operational. This may be an adult or paediatric service depending on the circumstances
- liaise with the staff at the transferring and receiving hospitals
- establish a phone conference link-up between the MRU, the transferring and receiving hospitals doctors on-call, and the appropriate retrieval service.

Response

For pre-hospital activation

Once the patient's destination has been determined there will be a number of simultaneous responses by the various different key players, all of which will result in a streamlined process designed to give the patient the best possible outcome.

The 'non-DP4' hospital

- Prepare for the patient's arrival.
- Assess the availability of a doctor for consultation and convey this information to the Ambulance Operations Centre, and the Medical Retrieval Unit.
- Continue the patient's initial stabilisation phase upon arrival.
- Liaise with either the regional retrieval service or the Medical Retrieval Unit (if this has not already occurred) to decide on the next destination for the patient and the appropriate level of escort for the patient (a Medical Retrieval Team may have already been mobilised depending on the information received from the accident scene).

The 'DP4' hospital

- Confirm availability of doctor with the Ambulance Operations Centre.
- Prepare for the patient's arrival. This will include ensuring that a doctor is on site prior to the patient's arrival.
- If a doctor is unexpectedly not available then convey this information to the Ambulance Operations Centre and to the Medical Retrieval Unit.
- Complete the patient's initial stabilisation phase upon arrival.
- Liaise with either the regional retrieval service or the Medical Retrieval Unit (if this has not already occurred) to decide on the next destination for the patient and the appropriate level of escort for the patient (a Medical Retrieval Team may have already been mobilised depending on the information received from the accident scene).

The 'referral' hospital

- May need to mobilise a retrieval team prior to the patient's arrival at the DP4 or non-DP4 hospital.

  If the referral hospital does not have a retrieval team available, or if the destination of the patient will be a metropolitan hospital, a metropolitan team may be mobilised.
- If the patient is going straight to the referral hospital from the accident scene then activation of appropriate staff and resources should occur prior to the patient's arrival.
- Liaise with the Medical Retrieval Unit and the P4/non-DP4 hospitals.

The Medical Retrieval Unit (MRU)

Mobilise a metropolitan retrieval team if a regional retrieval team is not available or if the conference link-up determines that a metropolitan retrieval is more appropriate. This may be an adult or paediatric service depending on the circumstances.

For at-hospital rural Emergency Department activations

Patients may have been taken to either a DP4 hospital or a non-DP4 hospital Emergency Department and the response will vary depending on which:

- immediately notify the on-call doctor and for them to attend (DP4 hospitals)
- notify the regional retrieval service and/or the Medical Retrieval Unit
- if a doctor is not available then convey this information to the Ambulance Operations Centre
- continue the patient's initial stabilisation phase
- liaise with either the regional retrieval service or the Medical Retrieval Unit (if this has not already occurred) to decide on the next destination for the patient and the appropriate level of escort for the patient.

Evaluation and monitoring of the system for Early Notification of Severe Trauma in Rural NSW

A program for evaluation has been developed by the Ambulance Service of NSW, the NSW Health Department and the NSW Critical Care Council.

This evaluation process will endeavour to ensure that the protocol performs as intended, that times to definitive care for trauma patients are decreasing and that patient outcomes are improving. The factors that will be examined will include the effects of the early notification program on ambulance services and hospital utilisation, performance of the triage tool and changes in the number of preventable trauma deaths in rural NSW.

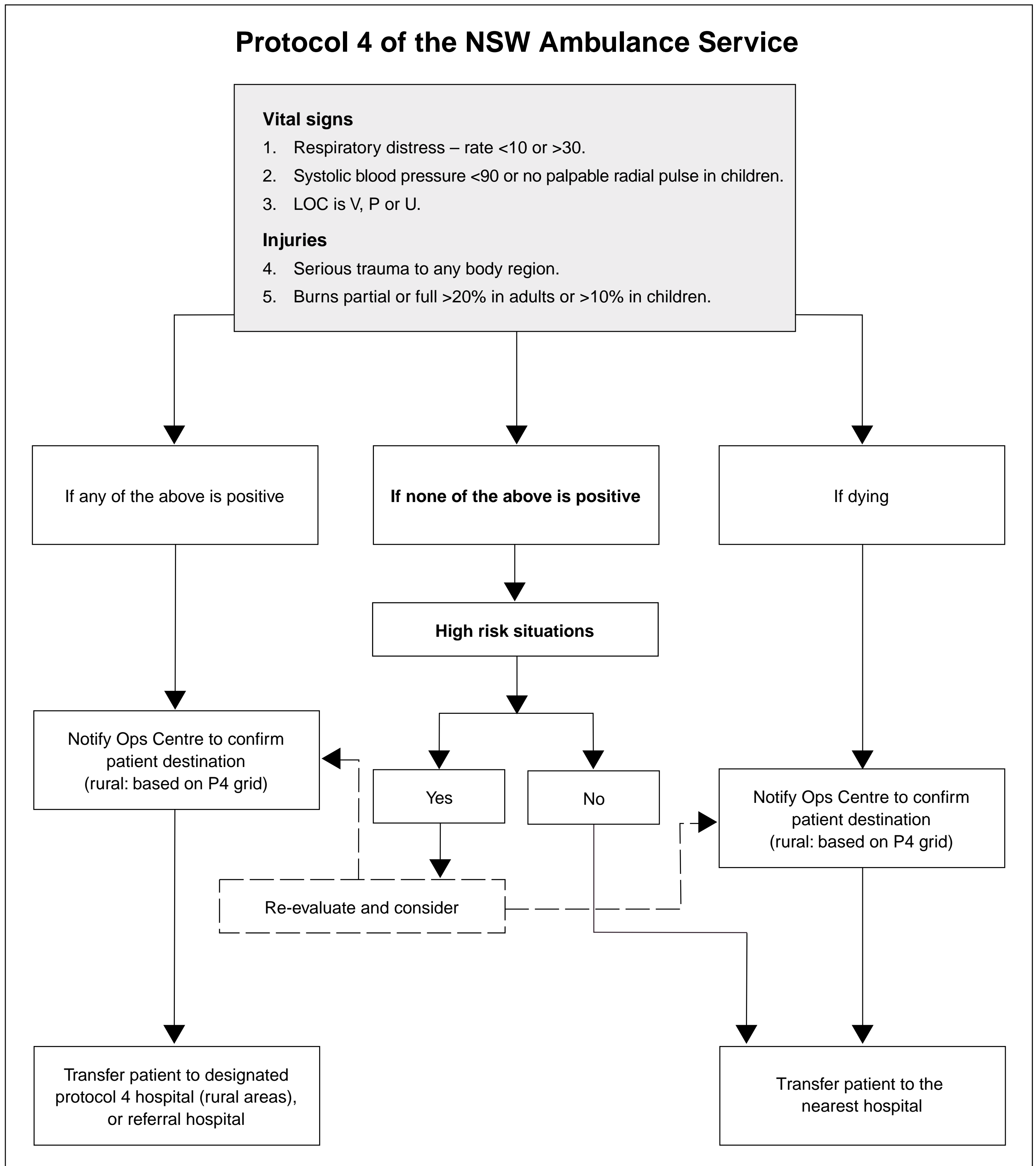
Monitoring and recording of notifications of severe trauma cases will be the responsibility of the Medical Retrieval Unit.

Collating and reporting of aggregate data will be coordinated by the Trauma Systems Advisory Committee with the assistance of the:

- NSW Ambulance Service and its Medical Retrieval Unit
- NSW Rural Critical Care Committee
- Area Critical Care Committees
- rural hospitals.

Summary flowcharts – Early Notification of Severe Trauma in Rural NSW

Pre-hospital activation



At-hospital rural Emergency Department activation

Any trauma patient with:

Vital signs

1. Respiratory distress – rate <10 or >30, or cyanosis.
2. Systolic blood pressure <90 or no palpable radial pulse in children.
3. LOC is V, P or U (reponds only to verbal or painful stimuli or has no response to either).

and / or

Injuries

4. Serious trauma to any body region.
5. Burns partial or full >20% in adults or >10% in children.

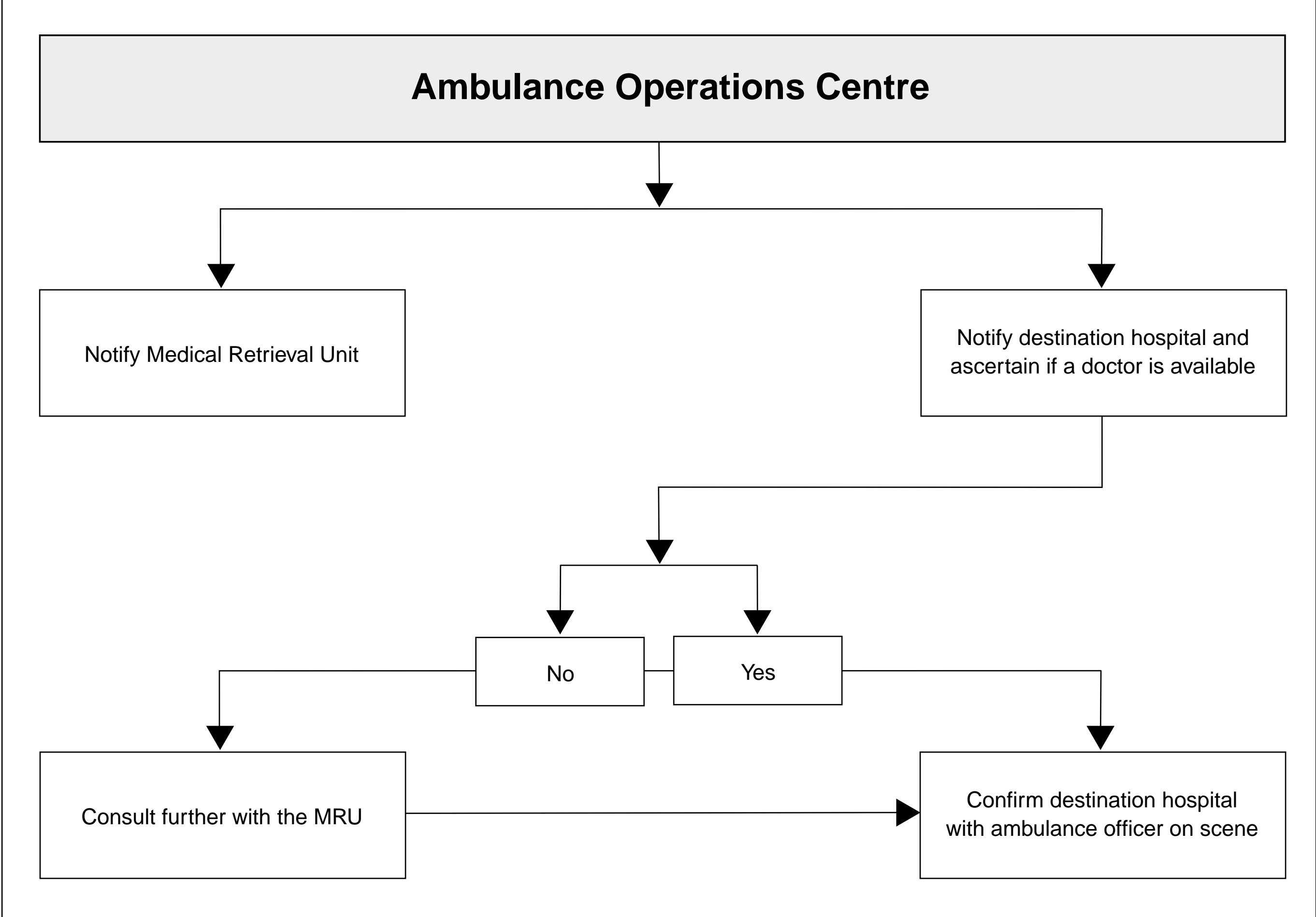
↓

Immediately

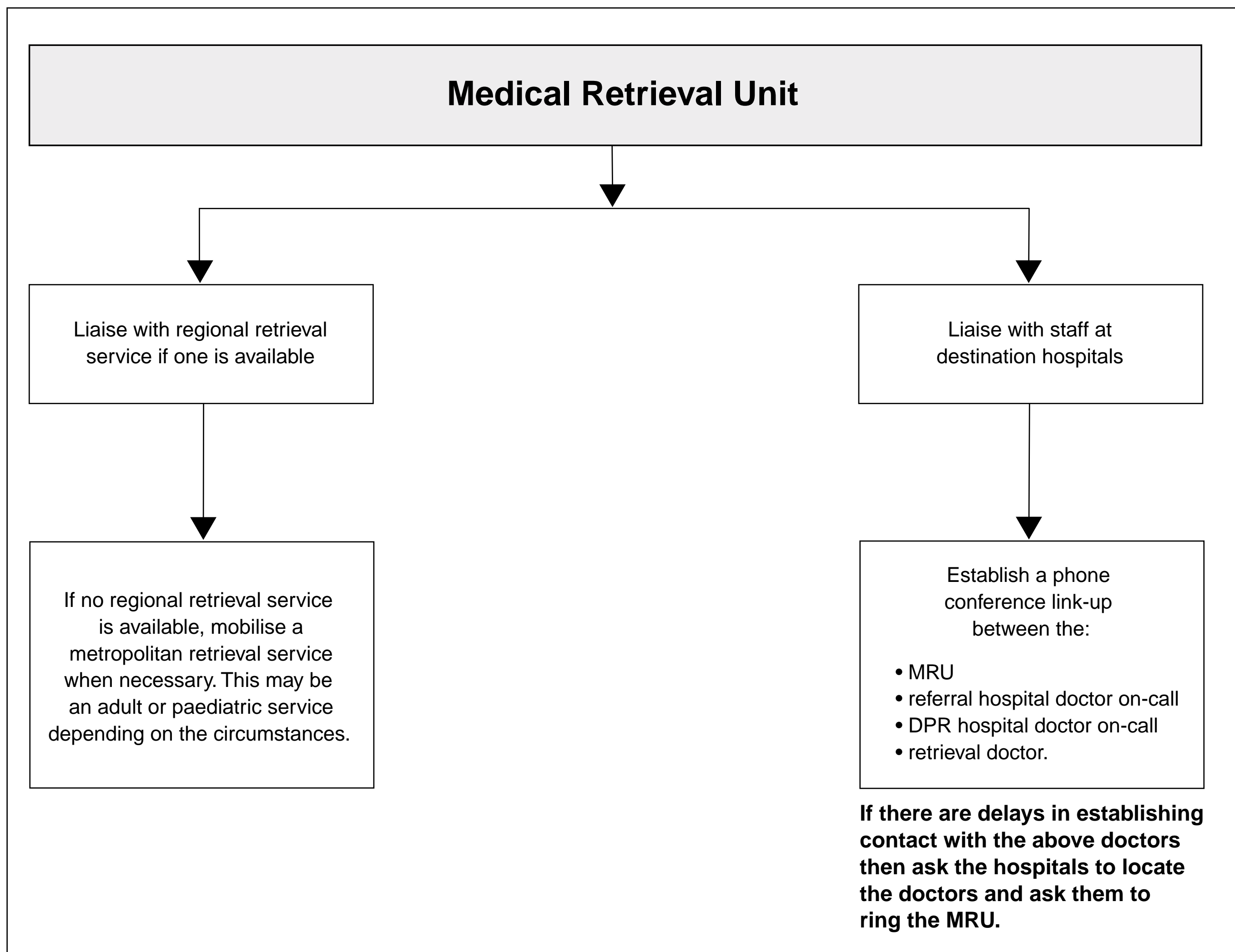
↓

- Notify doctor on-call (if this hasn't already happened) and ask that they attend.
- Notify the regional retrieval service if one is operational or if not the Medical Retreival Unit (1800 650 004).
- If no doctor is available, convey this information to the Ambulance Operations Centre.

Functions of the Ambulance Operations Centre with respect to Early Notification of Severe Trauma



Functions of the Medical Retrieval Unit with respect to Early Notification of Severe Trauma



Appendix 1 – tasking a helicopter to a prehospital scene in NSW

A helicopter may be despatched for the following reasons:

Difficult access or egress reasons

eg cliff, canyon, flood, water, adverse road conditions.

As judged by:

- the Ambulance Operations Centre from *approved local guidelines*

  or
- an ambulance officer on scene.

Rescue reasons

As judged by the Ambulance Operations Centre for any situation where the rescue capability of a helicopter is required for a person in imminent danger, eg:

- person in water
- boat sinking
- fall over cliff
- mine collapse

Potential clinical ('sounds bad') reasons

As judged by the Ambulance Operations Centre on the basis of general public information and with one of the following operational circumstances:

- the nearest car to scene is >30 minutes
- more advanced ambulance officer clinical skills are likely to be required than are available locally
- more clinical personnel are likely to be required than are available locally

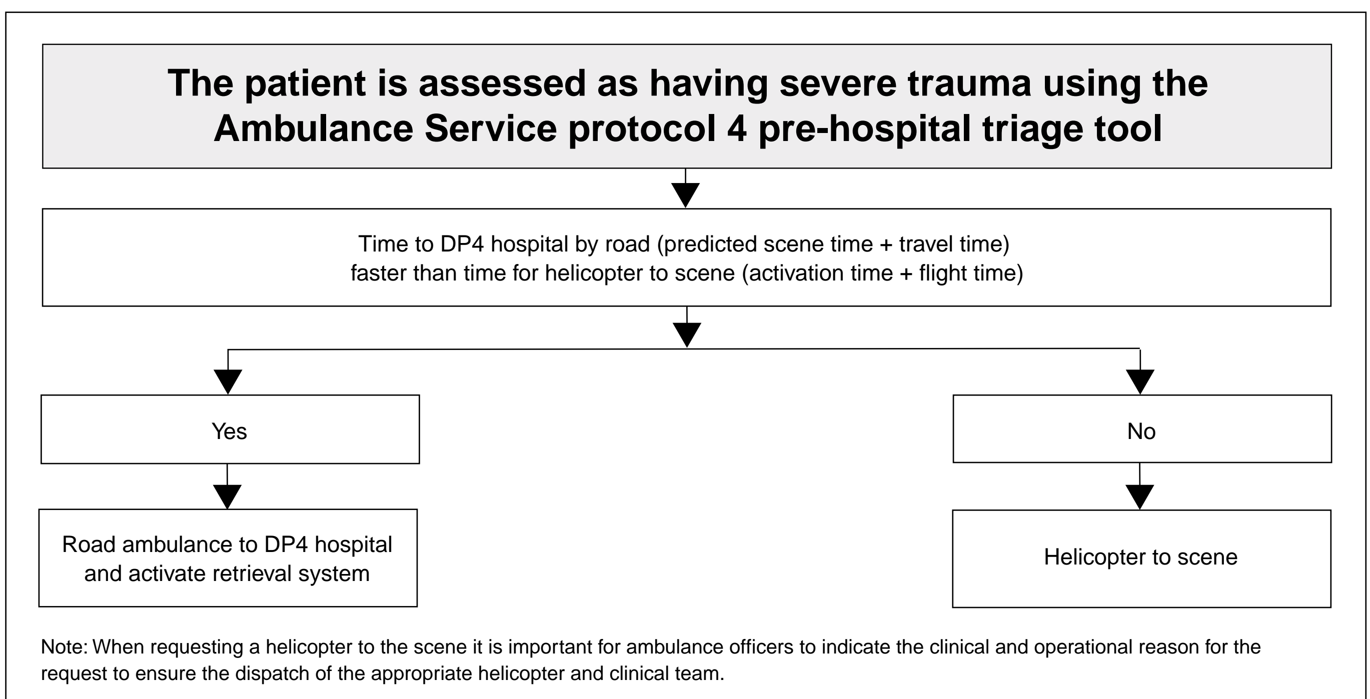
  and
- the helicopter to the scene time will be faster than the road time to the DP4 hospital.

Clinical reasons

As judged by an ambulance officer on scene.

Ambulance officers should indicate:

- the clinical problem (mechanism, injuries, vital signs and treatment given), plus
- the operational problem the helicopter is to address, for example:
  - difficult access or extrication
  - level IV or level V officer required
  - doctor or retrieval team required
  - direct transport to referral hospital required.



Note: When requesting a helicopter to the scene it is important for ambulance officers to indicate the clinical and operational reason for the request to ensure the dispatch of the appropriate helicopter and clinical team.

Appendix 2 – destination protocol for severe trauma patients when a helicopter is already on scene

2

Purpose

The purpose of this protocol is to designate the destination hospital for seriously injured patients in rural NSW *once a helicopter is on scene.*

Patients

This protocol applies to those patients meeting the criteria of the pre-hospital trauma triage protocol of the ASNSW (protocol 4).

Destination

Once on board a helicopter a patient meeting the vital sign and serious injury criteria of the pre-hospital trauma triage protocol should be taken to the closest in time 'referral' hospital as defined by the *Early Notification of Severe Trauma* document.

Exceptions

1. Patients may be taken to a closer hospital if they are dying or for aircraft operational and weather reasons. The Ambulance Operation Centre and the MRU must be notified.

   An example of an aircraft operational reason is where a hospital may not have a suitable helicopter landing site.

2. Patients should not be flown to more distant referral hospitals without prior consultation with the Regional Retrieval Consultant or the Medical Retrieval Unit. It is acknowledged that aircraft operational constraints and weather conditions may influence destination decisions from time to time.
3. Patients who are not severely injured should be taken to the usual (nearest) hospital. In cases of multiple victims, consideration should be given to taking members of one family to the same hospital.

Appendix 3 – NSW Health – delineation of the roles of Area Health Services and hospitals

3

Emergency medicine

Level	Description	Minimum level of support services							
		Path	Phar	Diag imag	Nmed	Anaes	ICU	CCU	Op/s
1	Able to provide first aid and treatment prior to moving to higher level of service, if necessary. Access to a medical practitioner. Quality assurance activities.[3] Interpreters as per *Circular 94/10*.	1	1	1	-	1	-	1	-
2	Emergency service in small hospital. Designated assessment and treatment area. Generally deals with minor injuries and ailments. Resuscitation, limited stabilisation capacity and assisted ventilation capacity prior to referral to higher level of care. Nursing staff with isolated certificate to perform emergency x-rays of chests and broken limbs. RN[1] from ward available to cover emergency presentations. RN[1] with recent acute experience / First Line Emergency Care[1] (FLEC) education. VMO on call. May be Local Trauma Service.[2] Access to local and statewide retrieval and transport service. Access to specialist consults including mental health resources, with the ability to transfer and refer. Access to CNC.[1] Access to CNE[1] is desirable.[1]	1	1	1	-	1	-	1	-
3	As level 2 plus designated nursing staff[1] available 24 hour and NUM.[1] Some RNs[1] having completed or undertaking relevant post-basic studies. Has 24 hour access to medical officer(s)[1] on site or available within 10 minutes. Specialists in general surgery, anaesthetics, paediatrics and medicine available for consultation, if applicable. Access to CNC.[1] Full resuscitation facilities in separate room. Formal quality assurance program.[3] Access to allied health professionals and availability of specialist psychiatric / mental health assessment. Ideally Medical Director[1], preferably with specialist qualifications. Pathology, radiology and operating suites available during normal hours and on call access after hours. Education programs for nursing and medical staff.	3	2	3	-	3	3	3	3
4	As level 3 plus can manage most emergencies, including stabilisation and assisted ventilation and provide definitive care for most. Purpose designed area. Designated Medical Director[1] with training and experience in emergency medicine. Experienced Medical Officer(s)[1] on site 24 hours. RNs[1] and experienced RNs[1] on site 24 hours, including a RN with post basic emergency qualifications on each shift. Specialists on call 24 hours in intensive care, general surgery, paediatrics, orthopaedics, anaesthetics and medicine. 24 hour access to on call liaison psychiatry. May send out medical and nursing teams to disaster site. Participation in regional retrieval system (rural base hospitals) is desirable. May be a Regional Trauma Service.[2] May provide Emergency Department Registrar position. Provides in-house formal medical and nursing education programs. Access to CNC.[1] Access to CNE[1] is desirable. 24 hour access to pathology, radiology and operating suites.	4	4	4	3	4	4	4	4

Emergency medicine

Level	Description	Minimum level of support services							
		Path	Phar	Diag Imag	Nmed	Anaes	ICU	CCU	Op/s
5	As level 4 plus can manage all emergencies, and provide definitive care for most. Medical Director[1] is Fellow of the Australasian College for Emergency Medicine (FACEM) accredited (NB specialist paediatric hospitals may have Medical Director with specialist qualifications in paediatric emergency medicine). Access to CNC.[1] Access to CNE[1] is desirable. Has designated Registrar[1] accredited FACEM. May have Staff Specialists in emergency medicine additional to Director. 24 hour on call emergency consultant cover. May be Area / Regional Trauma Service[2] which links with referral hospitals for tertiary level sub-specialties. Access to retrieval service. Send out teams to disaster site. 24 hour psychiatric assessment, on call. Extended hour access to allied health professionals (in particular social work services and physiotherapy).	5	5	5	3	4	5	5	4
6	As level 5 plus has neurosurgery and cardiothoracic surgery on site. Subspecialists available on rosters. Has advanced subspecialty Registrar[1] on site 24 hours. May be designated Supra-Area Trauma Service.[2] May have out-of-hours roster for Emergency Department staff specialists 24 hours / 7 days. Capacity for management of frequent major trauma and other life threatening emergencies. Capacity for invasive monitoring and short-term ventilation. Dedicated Nursing Director and / or NUM[1] 24 hours. A designated CNC[1] and CNE.[1] Provides advice and stabilisation for complex cases transferred from other network hospitals. May provide or participate in regional retrieval service. Active research program. CT and nuclear medicine available on-site.	6	6	6	5	6	6	6	6

SHPN (SWS) 020125