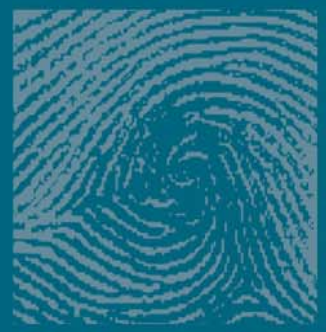


The Victorian state trauma system



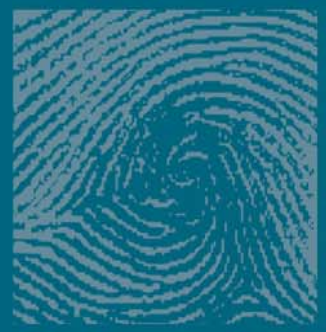
**Department of Human Services
2003**

The impact of major trauma



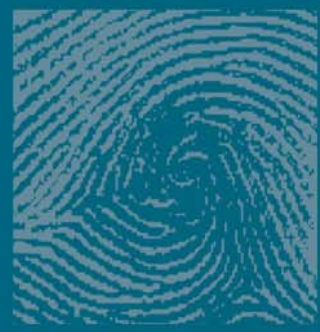
- Major trauma is responsible for the loss of more economically productive years of life than heart disease and cancer combined
- Leading cause of death in 0–40 year olds
 - Approximately 50% of childhood deaths
 - Approximately 75% of adolescent deaths
 - Approximately 40% of deaths in 15–25 age group (National Injury Surveillance Unit – 1998)

The impact of major trauma (cont)



- For every trauma related death in Victoria there are:
 - 31 hospital admissions
 - 144 Emergency Department attendances
- 2,438 patients admitted in Victoria in 2000-01
- Trauma care is costly – the treatment of a major trauma patient costs at least 3 times more than the treatment of a non-trauma patient

Defining major trauma



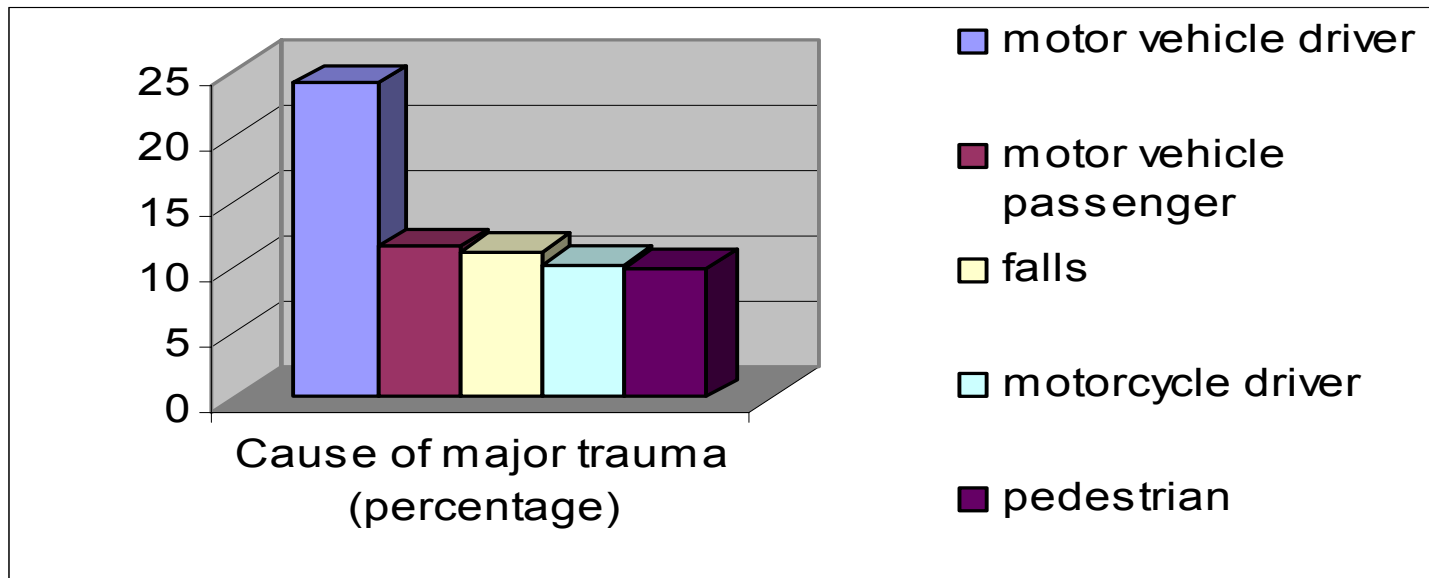
- There is no international standard for the definition of major trauma
- The following operational definition is used in Victoria:
 - Death after injury
 - Admission to Intensive Care Unit > 24 hours, requiring a period of mechanical ventilation
 - Serious injury to 2 or more body systems (excluding integumentary)
 - Injury Severity Score (ISS) > 15
 - Urgent surgery for intracranial, intra-thoracic or intra-abdominal injury or for fixation of pelvic or spinal fractures

Causes of major trauma



Victorian data for the period 1 July 2001 – 30 June 2002 indicates that the following were the most common mechanisms of injury:

(Victorian State Trauma Registry Annual Report, January 2003)

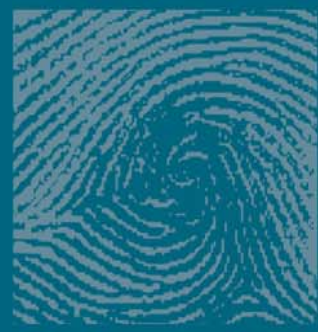


Preventible major trauma deaths



- Research into road traffic fatalities in Victoria during the 1990s revealed that 30 - 40% of deaths were preventible or potentially preventible*
- Problems were identified in the management of all types of traumatic injuries, at all levels of response – from prehospital to definitive care
- Potentially preventible complications were also identified in survivors of major trauma

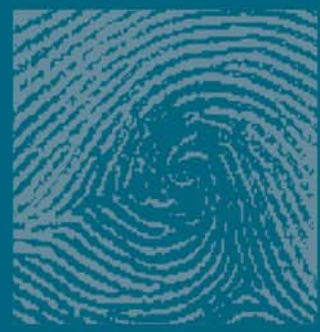
Preventible major trauma deaths (cont)



The Victorian rate of preventible and potentially preventible death following major trauma varied significantly according to the level of trauma service providing treatment:

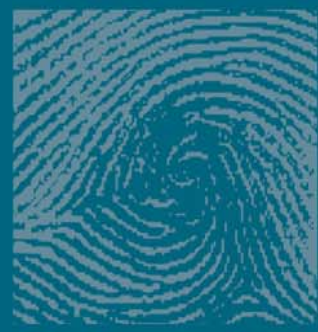
Trauma Centre	20%
Specialist Teaching	40%
Metropolitan	41%
Large Regional	53%
Small Regional	62%

Review of trauma services



- As a response to these findings, a taskforce was established in July 1997 by the then Minister for Health, the Hon Robert Knowles MP, to examine trauma and emergency medical services in Victoria
- The resulting report, the Review of Trauma and Emergency Services (the ROTES report) was published in 1999

The ROTES Report



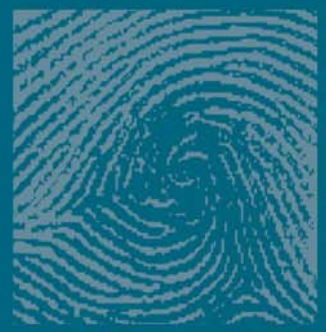
- The ROTES report provided evidence based advice to the state government on a best practice model for the integration and enhancement of trauma services
- Over 100 recommendations were made aimed at achieving optimal patient outcomes through coordinated trauma care

Systemic problems highlighted by the ROTES report



- Prolonged accident scene times
- Triage to hospitals unable to meet the needs of time-critical major trauma patients
- Delays and inadequate escort of rural and metropolitan major trauma patients requiring transfer
- Deficiencies in all stages of trauma management previously identified by the Victorian research into patient outcomes

The goal of the Victorian trauma system

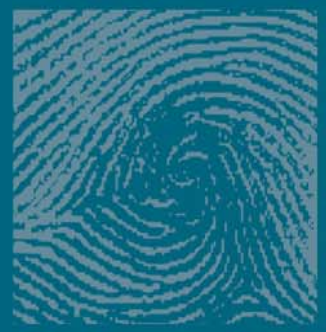


The central message of the ROTES report is:

“The right patient to the right hospital in the shortest time”

International research has demonstrated that the outcome of major trauma patients is **improved** when they receive **definitive** treatment at a **Major Trauma Service**

ROTES Recommendations



Recommendations were made in 11 broad areas:

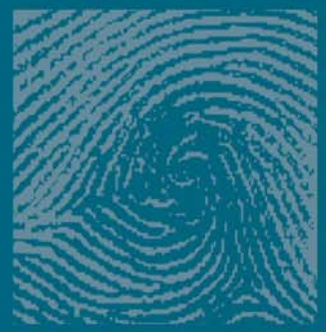
- Trauma system structure
- System organisation and management
- Triage
- Trauma teams
- Role of Director of Trauma Services

ROTES Recommendations (cont)



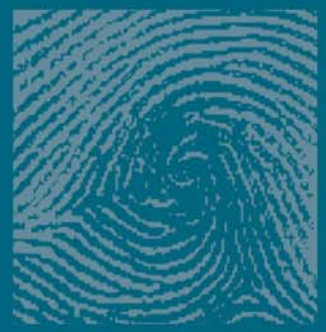
- Communications
- Retrieval and transfer
- Quality management
- Education and training
- Research, service and technology development, and
- Funding

Implementing ROTES recommendations



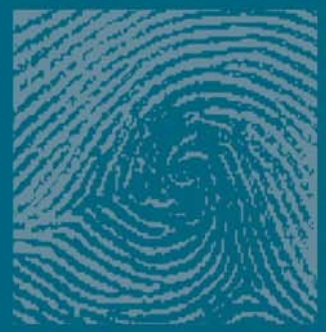
- Hospitals designated to levels within a tiered structure to provide different complexities of care – based on clinical capability and geographical considerations
- Concentration of expertise
- Major trauma patients treated by a service that is appropriate to the level of care needed
- Pre-hospital triage and transport of trauma patients to the most appropriate hospital within an appropriate time-frame

Implementing ROTES recommendations (cont)



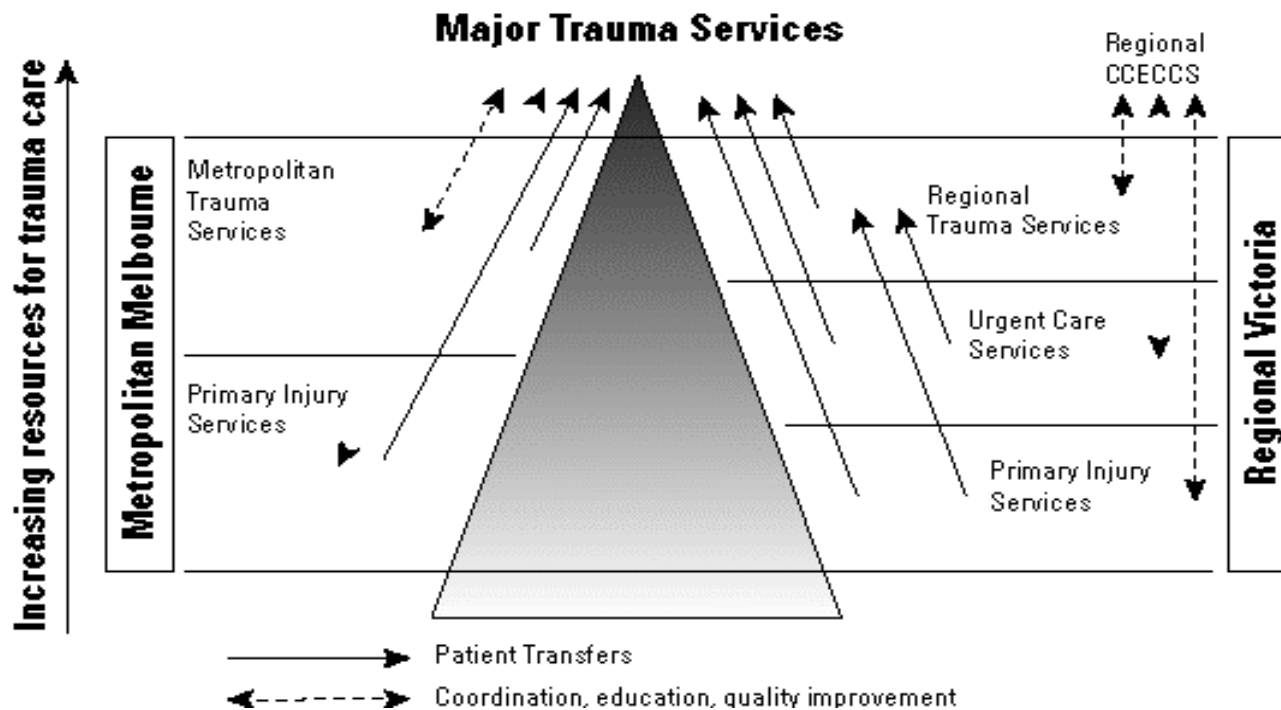
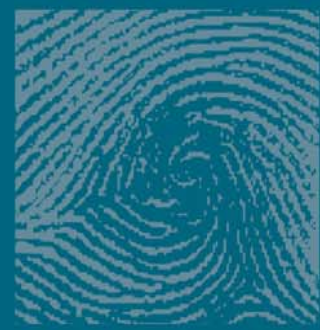
- Bypass of some hospitals
- Enhancement and integration of the rural trauma system
- Agreed triage and inter-hospital transfer protocols
- Data collection and monitoring of the trauma system

Implementation support

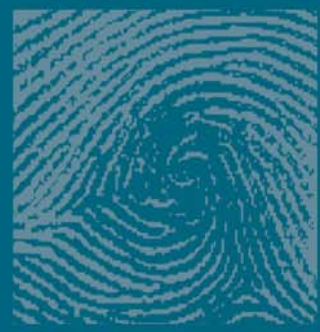


- The implementation of ROTES recommendations has been supported by the following bodies:
 - Ministerial Emergency and Critical Care Committee
 - State Trauma Committee and its Subcommittees and Working Groups
 - Trauma System Coordination Unit (DHS)
 - Regional Consultative Committees on Emergency and Critical Care Services
 - Rural Trauma Forum

Victoria's new integrated trauma system



Major Trauma Services



- Major Trauma Services (MTS) provide definitive care to most of the state's major trauma caseload through primary triage or secondary transfer
- The Alfred and the Royal Melbourne Hospital are designated as adult MTSs
- The Royal Children's Hospital is designated as the paediatric MTS

Major Trauma Services (cont)



MTSs also function as a resource to the healthcare field through:

- Provision of clinical advice
- Delivery of trauma education
- Development of a universal and reliable referral process
- Contribution to the development of trauma related policies and guidelines

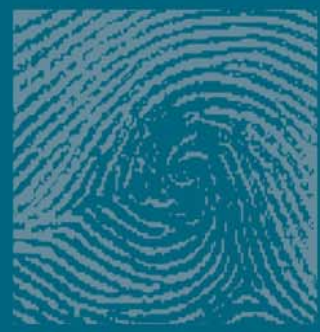
Metropolitan Trauma Services



Metropolitan Trauma Services (MeTS):

- Provide a second level of trauma service delivery to the MTSs
- Stabilise major trauma patients prior to their transfer to a MTS
- Provide definitive care to non-major trauma patients and a limited number of major trauma patients where appropriate
- Provide a support role to MTSs in times of high demand

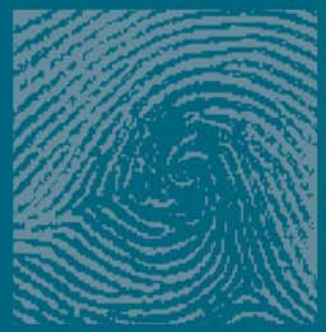
Regional Trauma Services



Regional Trauma Services (RTS)

- Provide resuscitation and stabilisation of major trauma patients prior to transfer
- Provide definitive care to non-major trauma patients and a limited number of major trauma patients where appropriate
- Provide regional retrieval services
- Undertake education, research, and quality monitoring activities
- Provide support to lower levels of rural trauma services

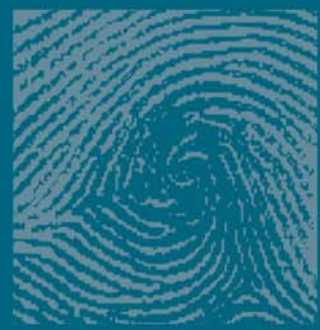
Urgent Care Services



Urgent Care Services (UCS):

- Provide initial resuscitation and limited stabilisation prior to early transfer
- Provide limited definitive care according to local resources
- Participate in some aspects of education, research, quality improvement and performance monitoring

Primary Care Services



Primary Care Services (PCS), both metropolitan and rural/regional:

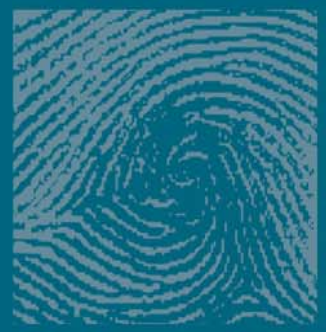
- Are designated to this level due to significant resource limitations for trauma resuscitation or their close proximity to a higher designated trauma service
- Will be bypassed in preference for other higher designated hospitals
- May manage a small number of major trauma patients who self present – these patients should be rapidly transferred to an appropriate trauma service

Initiatives supporting the trauma system



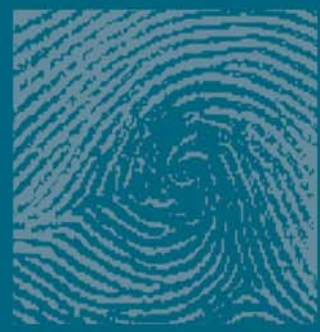
- Integration of individual hospitals into a coordinated system
- Introduction of trauma triage and transfer guidelines
- Establishment of a process to monitor and evaluate the state trauma system
- Appointment of 5 Regional and 3 MTS Trauma Coordinators who undertake data collection and education

Initiatives supporting the trauma system (cont)



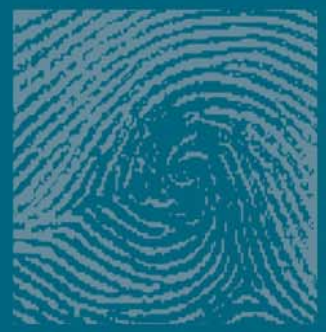
- Establishment of a Trauma Advice and Referral Line (1800 700 001) to assist Victorian clinicians 24 – 7 in their management of major trauma patients
- Development of a framework to guide the delivery of trauma education
- Enhancement of the rural trauma system
- Development of the Victrauma website (victrauma.health.vic.gov.au)

Trauma education



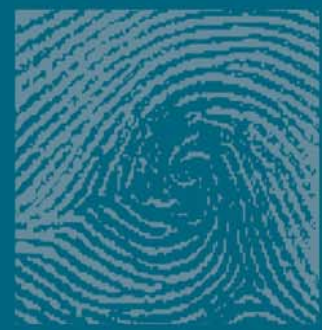
- The ROTES report made a number of recommendations about trauma education:
- MTS and RTS hospitals should function as resource centres for the dissemination of trauma education
 - Trauma education should be coordinated, accessible and affordable
 - Information about the new trauma system should be included in all trauma courses
 - The particular needs of rural practitioners should be considered
 - When appropriate, multi-disciplinary courses should be considered

Trauma education (cont)



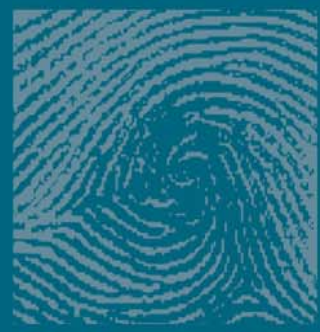
- The document “A Trauma Education Framework for Victoria” provides guidance for trauma education providers, coordinators and funding bodies
- Trauma education should focus on systemic issues, clinical development and the establishment of guidelines and protocols for the following groups:
 - Medical
 - Nursing
 - Paramedical
 - Allied health

Victorian trauma resources



- Further information is available from:
 - ROTES Report
 - Victorian trauma system website - <http://victrauma.health.vic.gov.au/>
 - A Trauma Education Framework for Victoria
 - Trauma coordinators – in the 5 DHS rural regions and at the 3 Major Trauma Services
 - Department of Human Services – contact Alison McMillan (03 9616 8237)

In conclusion



- The aim of the Victorian state trauma system is to deliver the **right patient** to the **right hospital** in the **shortest time**
- Major trauma patients have the best outcomes when they receive their definitive treatment at the highest appropriate level of trauma service
- The Trauma Advice and Referral Line (1800 700 001) provides clinical advice and assistance with referral and transfer of major trauma patients