



TEAMWORK AND COMMUNICATION

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1. Key messages

The Victorian State Trauma System provides support and retrieval services for major trauma patients requiring definitive care, transfer and management. This teamwork and communication guideline provides advice on both how to run and how to be a member of an effective team. The aim of this document is to improve efficiency of interaction within the team, be it within a pre-hospital, hospital or retrieval setting, with the goal of improving patient management and avoiding critical incidents. It also provides a general approach to the structure of the trauma team and the roles of each member.

This guideline is developed for all clinical staff involved in the care of trauma patients in Victoria. It is intended for use by frontline clinical staff that provide early care for major trauma patients; those working directly at the Major Trauma Service (MTS) as well as those working outside of a MTS.

These guidelines provide the user with accessible resources to effectively and confidently provide early care for the critically injured patient. The guideline is evidence based, has followed the AGREE methodology for guideline development and is auspiced by the Victorian State Trauma Committee.

Clinical emphasis points

- The structure of a trauma team will differ according to staffing levels and availability.
- Effective communication is essential in successfully resuscitating trauma patients.
- A designated team leader should seek input from other members of the team; however, they must make the final decision.
- To ensure the team runs effectively there must be mutual trust and respect between all members.

Technical developments in remote clinician contact and assistance (such as telehealth) is providing better access to expert guidance in the management of major trauma.





2. Key attributes of an effective team

Any team should be greater than the sum of its parts. While it is important that individual members are highly skilled and technically competent there are a number of key attributes that every team member should display:

- clear understanding of individual roles
- awareness of shared goals
- ability to display resilience under stress
- ability to cooperate on a personal and professional level
- flexibility to handle whatever comes their way

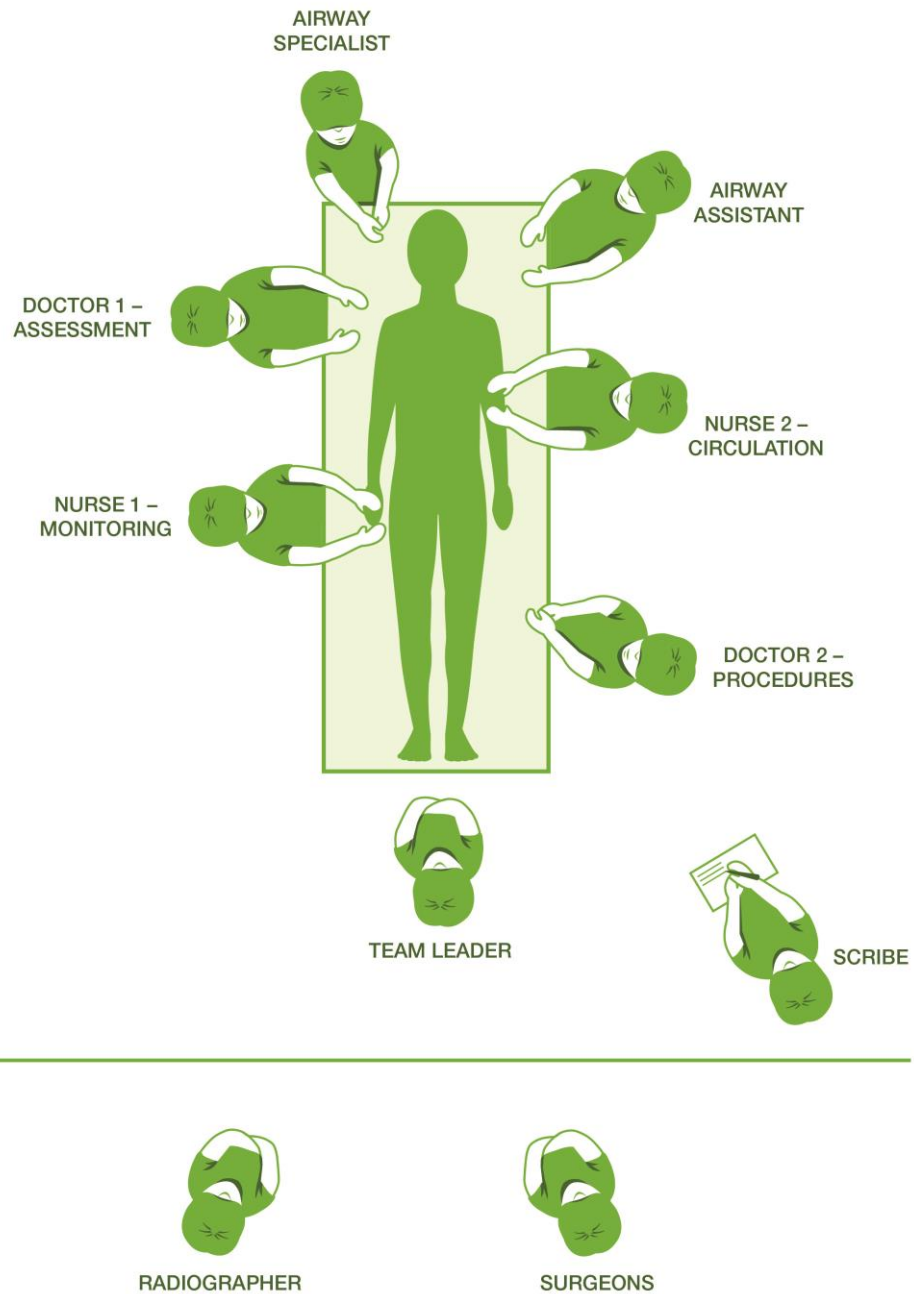
In the context of trauma the team is a group of individuals, often from different professional backgrounds with varying levels of expertise, who come together with a common purpose: the successful resuscitation of a trauma victim. The traditional ED team consists of doctors and nurses only, however these practitioners work mainly independently due to conventional demarcationsⁱ. It is vital that all members of the team, whatever their cultural and professional background, are able to operate within an atmosphere of mutual trust and respect.

3. Trauma team structure

The trauma team structure will vary according to factors such as the time of day, availability of staff, hospital resources and skill set of the respondersⁱⁱ. This section will describe the makeup and roles in the 'ideal' setting and in modified circumstances where only limited resources are available. The level of training or seniority is not a fixed recommendation and it is recognised that, at a practical level, 'emergency clinician' may equate to 'emergency registrar' and 'anaesthetist' to 'anaesthetic registrar', etc. The assignment of roles in a trauma team need to flexibly focus on optimising the net capabilities of those present and available, rather than being restricted by seniority or craft group.ⁱⁱⁱ



Trauma team positions





As general guidance, the ideal trauma team should consist of the following:

Team leader: *ED clinician or doctor with the highest level of trauma care skills*

- Controls and manages the resuscitation. Hands off!
- Must be clearly identifiable in that role
- Allocates roles to other members of the team
- Ensures that preparation for the patient's arrival is complete
- Stands at the foot of the bed
- On arrival of the patient, ensures all involved listen to the handover by EMS staff, ensuring no one begins working on the patient until complete (hands off, hand over)
- Directs the resuscitation, makes critical decisions and prioritises care^{iv}

Airway specialist: *Anaesthetist, but if none available then it should be the person most experienced in airway management. Consider the assistance of a GP, MICA paramedic or others*

- Ensures adequate preparation of airway equipment
- Responsible for assessing and managing the airway and ventilation
- Counts the initial respiratory rate. Administers oxygen therapy, performs suction, inserts airway adjuncts, performs endotracheal intubation (RSI)
- Maintains cervical spine immobilisation and controls the log roll
- Takes an initial history (AMPLE)

Airway assistant: *A theatre assistant may assist in this role; if not, then Nurse 1 can assume this role*

- Assists in preparing equipment for advanced airway intervention
- Assists during interventions (applying cricoid pressure, passing tools to the airway specialist)

Doctor 2: Assessment: *Emergency clinician/surgeon*

- Undertakes the primary survey
- Reports clinical findings clearly to the team leader and scribe
- Conducts FAST exam if suitably qualified and no ultrasonographer present
- May be required to perform procedures dependant on whether Doctor 2 is present and on skill set and training

Doctor 2 procedure: *Emergency clinician/doctor if available; if not then this role can be divided between Doctor 1 / Nurse 1 or 2 / paramedic, dependant on skills*

- Performs procedures dependant on skill set and training (finger thoracostomy, chest drain insertion)
- Gains intravenous (IV) or intraosseous (IO) access and draws bloods
- Has nasogastric tube (NGT) and in-dwelling catheter (IDC) insertion tubes ready
- Conducts the secondary survey



Nurse 1: Monitoring: *ED nurse / ward nurse / paramedic*

- Cuts off clothing on the right side
- Places monitoring equipment on the patient (three-lead ECG, blood pressure, SpO₂, defibrillation pads if necessary)
- Takes temperature
- Assists with advanced airway interventions as necessary^v
- Assists with procedures (NGT / IDC / chest drain) as necessary or medical care as directed by the team leader

Nurse 2: Circulation: *ED nurse / ward nurse / paramedic*

- Cuts off clothing on the left side
- Attempts IV cannulation or IO access, take bloods including BSL (if no doctor available to do this)
- Commences IV fluid therapy via a warmer if necessary
- Draws up drugs and administers medications as necessary (morphine, anaesthetic induction agents)
- Sets up external warming and ensures the patient is kept normothermic during resuscitation

Scribe: *ED nurse / ward nurse / paramedic*

- Collates all information and records it on trauma charting
- Keeps an accurate record of time of arrival, interventions and events
- Records drug dosages, time of administration and amounts
- Prepares paperwork for inter-hospital transfer if necessary
- Gathers the patient's belongings and documents a record of their possessions
- Writes the patient identification wrist band and provides to nurse for application

Others: Remain outside the area of principal activity and wait to be called by the team leader to assist.

Radiographer:

- Takes x-rays as directed by the team leader; if trained, may perform the FAST exam

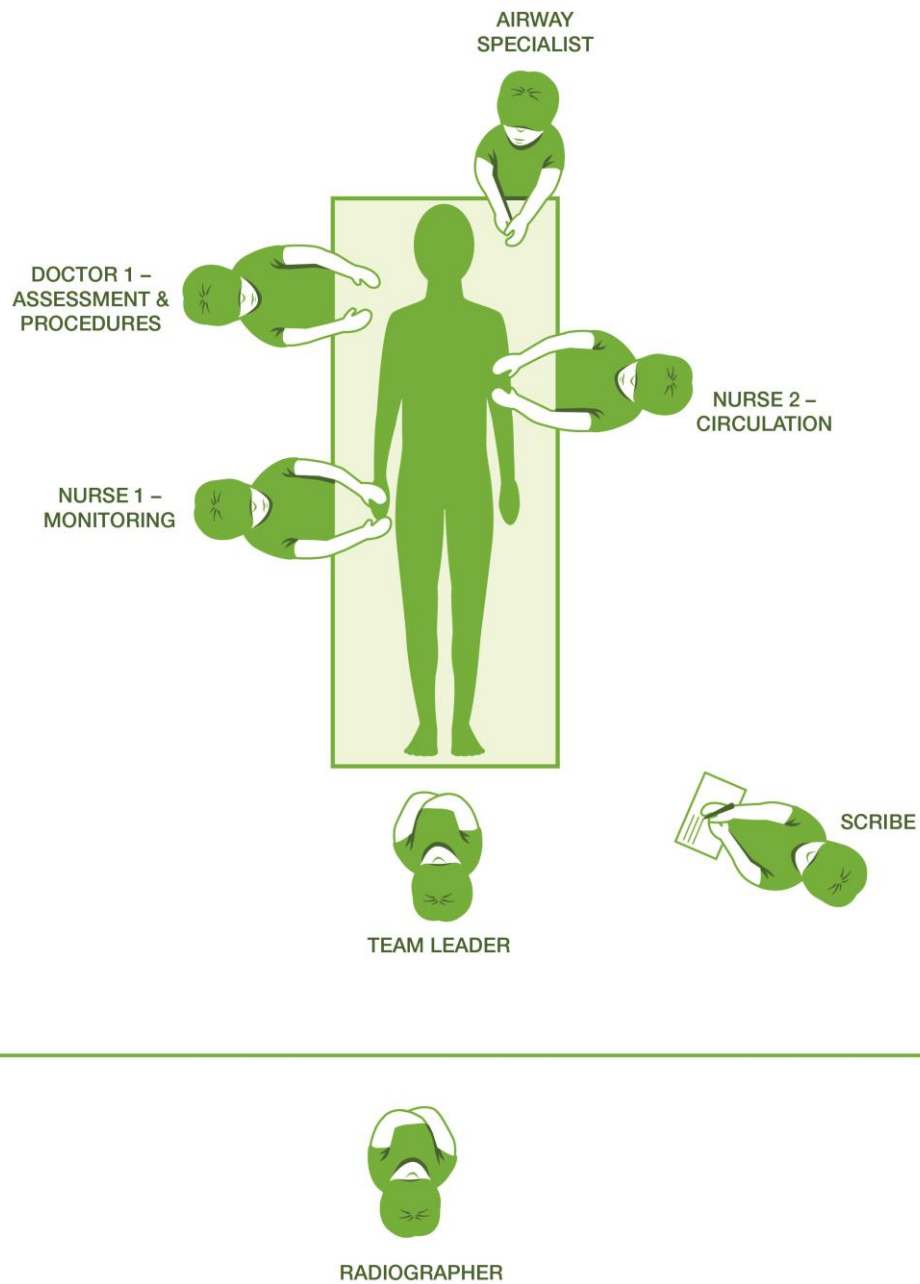
Specialists: *General surgeon / orthopaedic surgeon*

- Assists with the secondary survey and advanced procedures as directed by the team leader



Modified trauma team positions

Where there are limited resources then individuals in the team will need to assume more than one role. It is important that all staff work collaboratively and communicate effectively.





4. The role of the team leader

The role of the team leader is an important one and one that shouldn't be undertaken lightly. Before any trauma reception begins the team leader role needs to be allocated and explicitly stated. The position does not need to be taken by the person with the most experience, but it should be someone with the knowledge of the treatment of critically ill trauma patients. They also need to have the communication skills needed to fulfil the role.

Team leadership is the ability to direct and coordinate the activities for all team members, assess team performance, work with the team to develop collective knowledge, skills and abilities, motivate team members, plan and organize as well as establish a positive working atmosphere^{vi}.

A good team leader will support and encourage the team, seek advice from other expert members of the team and allow their instructions to be questioned. Members of the team must respect their authority and be prepared to carry out the instructions of the leader. The team leader cannot always be correct, but following discussion the leader must make the final decision.^{vii}

Strong leadership will provide the members of the team with a sense that the best possible outcome was achieved, even if the patient does not recover. In contrast, poor leadership may induce frustration and anxiety, having a negative impact on the team and its future performance.

Monitoring simultaneous activities is hard, and as team leader it is necessary to have a dynamic mental model of what is occurring with each element of the resuscitation, what rate the assessment and management of each component (A/B/C/D) is proceeding at, and how the dynamic changes in each component are affecting the other elements of the resuscitation^{vi}.

What is situational awareness?

Situational awareness means being aware of what is going on around you, being able to see the bigger picture and reacting appropriately to it without getting caught up in the minutiae. In managing a complex trauma it is easy to become fixated on one problem; being focused on a single part of the situation means that other critical elements may deteriorate around you without recognition^{vi}. In a practical sense, situational awareness is paying attention to what is going on around you. The resuscitation room or trauma bay can be a loud and distracting environment; the team leader has to be able to manage this while directing the team in an efficient way.

5. Effective communication

Effective communication is essential in successfully assessing and resuscitating critically ill trauma patients, especially in times of high stress. It is important to maintain a common vocabulary, creating a shared mental model of the case to avoid assumptions.

What is a shared mental model?

Creating a shared model of the patient's situation allows personnel from differing backgrounds to understand both the clinical and logistical implications of the case. It ensures that team members are familiar with one another's roles and responsibilities; that they are able to anticipate the needs of other team members, and have a high level of adaptive capacity^{viii}. This collaborative approach helps break down boundaries between individuals



with varying levels of experience. It also helps reduce the perception of a power differential between outside specialists coming into the emergency department. Stating common treatment goals prevents individual team members veering off on counterproductive tangents. An example of this is an orthopaedic surgeon fixating on a dislocated ankle while the patient has a life-threatening pneumothorax that needs dealing with first. A way of doing this is to brief the team prior to the patient's arrival.

Briefing the team

Even before the trauma patient arrives in the department the team leader should gather the team and brief them. The aim of the briefing is to:

- allocate individual roles (for example, airway doctor/nurse)
- allocate tasks to be completed before the patient arrives (for example, draw up drugs, prepare for a chest drain insertion, pre-notification of radiology/blood bank/theatre)
- create a shared mental model of the patient's current status as well as the anticipated plan and final destination
- create awareness of potential issues and how they might be dealt with (anticipate the 'what if?' scenario)
- allow the team to ask questions and clarify any issues **before** the patient arrives.

Tacit vs explicit communication

Tacit knowledge can be described as that which is acquired through practice and experience and may be difficult to communicate^{ix}. The same idea can be applied when referring to communication skills in the ED. Tacit communication is communication that occurs, often without words, in which the intention is never actually stated. One example of this is an experienced anaesthetist putting their hand out and expecting to be handed the laryngoscope by their assistant without actually asking for it because that is the way they do things. It should be obvious that this method can lead to problems, especially in occasional teams in times of high stress.

By making communication explicit and specific such as 'When I do ... I would like you to do ...' and allowing questions to be asked, errors and critical incidences can be avoided. In times of high stress communication often shifts from an explicit to a tacit form without the team being aware of it. This leads to missed information and poor outcomes.

One technique that can help avoid this is using closed-loop communication.

Closed-loop communication

Once the team leader has either requested information or asked for a procedure to be performed by a named person, they should then acknowledge the request explicitly and then state when it is done. This allows for clarification of requests if needed and avoids errors of omission. Closed-loop communication allows the sender to know that their requests have been heard and understood.

Example: *'James, I want you to insert a large-bore IV, please.'*
 'You want me to insert a 16-gauge IV?'
 'Correct.'



Closed loop communication has been shown to reduce error rates by removing ambiguity from instructions, allowing questions if the instruction was not heard clearly, and it allows others in close proximity to be aware of the proposed course of action^{vi}.

It is also especially important when ordering drug doses, especially if they are unfamiliar. If one asks for '50 of propofol', do you mean 50 mg or 50 mL? It would be better to state, '*I'd like you to give 50 mg, that is 5 mL of propofol.*'

The use of names avoids the problem of such requests being made to an empty space. When a team leader asks out loud for an IV to be inserted, unless s/he specifies who s/he wants to perform the procedure then there is a risk it will not be done at all.

It is important that the team leader also uses eye contact when making requests, allowing for non-verbal as well as verbal clarification. The leader doesn't bark orders but should be concise and clear in their language in order to get the task done.

Handover

ISBAR is an acronym for facilitating health professional communication ensuring clarity and completeness of information in verbal communication. By using a structured approach one can avoid missing vital information. By consistently using the ISBAR format for handover the team can anticipate what is coming next and be aware when important information is being presented:

- I** Identify: Who are you and what is your role? Patient identifiers (at least three).
- S** Situation: What is going on with the patient?
- B** Background: What is the clinical background/context?
- A** Assessment: What do you think the problem is?
- R** Recommendation: What would you recommend? Identify risks – patient and occupational health and safety. Assign and accept responsibility/accountability.^x

Remote support and communication

The formation of a trauma or deteriorating patient response team may be very different among health services with highly variable capacity. Developments in both technological hardware and communication infrastructure have allowed healthcare services to extend their information base beyond in-house capacity, through using videoconference (VC) technologies. Difficult major trauma patient presentations, particularly when there is no or only off-site medical cover, require additional support to optimise patient care. The connection to a 'remote expert' to assist in identifying differential diagnoses and to guide ongoing assessment and intervention can be facilitated by Adult Retrieval Victoria (ARV) consultants. Where structures do not exist to allow VC consultation, voice-only teleconferencing with ARV allows for ongoing dialogue regarding best management of the major trauma patient.

Current structures allow for many Victorian health services to connect with critical care coordinators at ARV to provide expert guidance in managing major trauma patients. Engaging a VC support person has been shown to improve the confidence and abilities of attendant staff in managing acutely unwell patients. Systems currently in place allow for high-quality video and voice transmission to add value to the on-site clinical assessment of major trauma patients. The capacity of VC support lends itself to wide-ranging consultation, including reviewing x-rays and electrocardiographs in addition to major trauma patient assessment and interventional support.



Interactions over VC and teleconference technologies may require a change in approach, with some additional training and exposure, and the dissolution of barriers to involving an additional and external expert. However, identified positive outcomes necessitate health services embracing the use of VC and teleconference technologies to build staff confidence and skills and therefore improved patient outcomes.

6. Dealing with issues

Graded assertiveness

Teaching people to speak up and creating the dynamic where they will express their concerns is a key safety factor^{xi}. Occasionally the team members may not agree with the leader's management plan or the team leader may go silent and appear to be cognitively stuck. Members can use this as an opportunity to practice graded assertiveness. This is a communication technique that can allow anyone to challenge any action or behaviour that they think is inappropriate.

One way to remember it is to use the PACE mnemonic:

- P** Probe: 'Do you know that...?'
- A** Alert: 'Can we go back to the start and repeat the primary survey?'
- C** Challenge: 'Please stop what you are doing while we check ...'
- E** Emergency: '**Stop** what you are doing and put down the scalpel.'

No one team member should be afraid to point out a risk, a concern or an actual or potential error.

Five-step advocacy

An alternative approach is the advocacy approach:

- 1. Get attention** – *'Excuse me, doctor!'*
- 2. Raise your concern** – *'There is no end-tidal CO₂ trace.'*
- 3. State the problem as you see it** – *'I'm concerned that the intubation was unsuccessful.'*
- 4. Suggest a solution** – *'Why don't we remove the ETT and go back to bagging the patient?'*
- 5. Obtain an agreement** – *'Does that sound like a safe thing to do?'*

7. Guideline implementation

These guidelines are designed to push for quality improvement using evidence-based practice across the entire care pathway. They aim to achieve consistent advancement in people's health and lead to access of good-quality care.

Putting these guidelines into practice benefits everyone; this includes the staff directly involved in patient care, those involved in managing the health facility, local healthcare organisations and members of the public. It can help to monitor service improvements, demonstrate that high-quality care is being provided and also highlight areas for improvement.

One of the most difficult aspects of working with guidelines is how best to implement them into routine daily practice. Many of us provide patient care according to usual routines ('how it's always been done') instead of looking at developments and change in practice to reflect



the latest evidence-based research. Barriers to implementation can include organisational constraints, such as a lack of time, obstructive opinions of key people who may not agree with the evidence or do not want to change their practice, and lack of leadership to effect change. Additionally, there may be a perceived poor sense of competence by staff who question their skills.

In order for change to be effective there must be an identified need, a willingness to adapt and promote current practices, a driving force behind it and acceptance from all levels, be it individual, team or organisational.^{xii} For these guidelines to be successfully implemented, the following is recommended.

High-level support and clear leadership

Successful implementation plans have a person on the board, such as a medical director, who drives the implementation agenda forward as well as a clear implementation policy approved at the highest level.

A nominated lead for the organisation

One person should be identified who is responsible for driving the education and development of these guidelines into practice. They should be involved in coordinating, disseminating and monitoring the implementation as well as for arranging educational events to promote the use of these guidelines in the workplace. The responsibility for this could be included into an existing role such as that of the clinical governance manager or anyone involved in quality assurance.

A multidisciplinary forum

The multidisciplinary forum should have decision-making powers and report to the chief executive or senior managers of the organisation. New guidelines should be reviewed after they are published and their relevance to the organisation assessed. A clinical lead for each guideline should be identified and steps taken to disseminate to the appropriate personnel. Implementation is most effective if a wide range of disciplines are involved in the forum.

A local policy

Organisations should have a clear, structured policy in place for implementing new guidelines. This policy should be endorsed at the highest level of management and be available for all.^{xiii}

What can you do as an individual?

Become a project champion. One way to begin implementation in your workplace is to take the initiative and volunteer to represent your department. Review these guidelines and compare them with the current ones you have in place. Note any changes to practice that need to be addressed in order to standardise your organisation with current best practice.

In staff meetings, bring up the idea of implementation and seek feedback from other staff members on the best way to do this. Collaborate with colleagues across all boards and emphasise the importance of team communication and cohesion. Print handouts, send out links to workmates and arrange for flowchart posters to be placed in relevant areas.

If you have a clinical educator at your site, inform them of the current updates and discuss ways they can influence training and provide moulage-based simulation scenarios. Often training with the staff you work with on a regular basis can help to foster communication and a real sense of teamwork.



Speak with your organisation about placing access to the *Victorian trauma guidelines* on your intranet to allow easy access to the site.

Visit <www.trauma.reach.vic.gov.au>, which will be updated regularly. It contains learning modules and moderated remote tutorials.

As always, your feedback is encouraged. If you have any comments or suggestions, or would like to share how you have adopted these guidelines into your practice, we would appreciate your thoughts.



Trauma Victoria

The Victorian State Trauma System (VSTS) facilitates the management and treatment of major trauma patients in Victoria. The VSTS aims to reduce preventable death and permanent disability and improve patient outcomes by matching the needs of injured patients to an appropriate level of treatment in a safe and timely manner.

The system works to have the right patient delivered to the right hospital in the shortest time.

One of the best ways to facilitate this is to provide an education resource to all clinicians. Trauma Victoria is a statewide education initiative directed towards clinical staff (doctors, nurses, allied health, paramedics) who provide early patient care for major trauma outside of a major trauma service.

Guidelines are in place to support awareness of **key aspects of the trauma system** and early trauma care and include **specialist trauma transfer** guidelines.

A web-based learning management system provides modules to support each of the principle guideline areas. Skills tutorials on key trauma procedural interventions will also be accessible.

Moderated remote tutorials will be offered in the future. Clinicians will join a multisite, multiparty video-conferenced meeting room for tutorials and discussions on relevant trauma subjects. It will allow local practitioners to tap into specialised clinical knowledge and to develop their learning to the fullest extent.

Regional simulation and team training will also be supported via a remote expert facilitator and will involve regional and subregional simulation trainers. It will build capacity among simulation trainers to enhance local trauma team training programs.

Facilitated visits will also be arranged whereby medical, nursing and allied health staff may be placed for brief rotations with a major trauma service in order to increase their experience and familiarity in major trauma management. The aim is also to promote the development of clinical relationships between organisations.



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AGREE II score sheet – teamwork and communication

Domain	Item	AGREE II Rating						
		1 Strongly Disagree				7 Strongly Agree		
		1	2	3	4	5	6	7
Scope and purpose	The overall objective(s) of the guideline is (are) specifically described.							X
	The health question(s) covered by the guideline is (are) specifically described.							X
	The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described.							X
Stakeholder involvement	The guideline development group includes individuals from all the relevant professional groups.						X	
	The views and preferences of the target population (patients, public, etc.) have been sought.						X	
	The target users of the guideline are clearly defined.							X
Rigor of development	Systematic methods were used to search for evidence.						X	
	The criteria for selecting the evidence are clearly described.						X	
	The strengths and limitations of the body of evidence are clearly described.						X	
	The methods for formulating the recommendations are clearly described.							X
	The health benefits, side effects and risks have been considered in formulating the recommendations.						X	
	There is an explicit link between the recommendations and the supporting evidence.						X	
	The guideline has been externally reviewed by experts prior to its publication.						X	
	A procedure for updating the guideline is provided.							X
Clarity of presentation	The recommendations are specific and unambiguous.							X



Domain	Item	AGREE II Rating						
		1 Strongly Disagree				7 Strongly Agree		
		1	2	3	4	5	6	7
	The different options for management of the condition or health issue are clearly presented.						X	
	Key recommendations are easily identifiable.						X	
Applicability	The guideline describes facilitators and barriers to its application.							X
	The guideline provides advice and/or tools on how the recommendations can be put into practice.						X	
	The potential resource implications of applying the recommendations have been considered.						X	
	The guideline presents monitoring and/ or auditing criteria.						X	
Editorial independence	The views of the funding body have not influenced the content of the guideline.							X
	Competing interests of guideline development group members have been recorded and addressed.						X	
Overall Guideline Assessment	Rate the overall quality of this guideline. 1- Lowest possible quality 7- Highest possible quality						X	
Overall Guideline Assessment	I would recommend this guideline for use.	Yes		Yes, with modifications			No	
		X						



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