

Joint Guideline for the Transport of Critically Ill Patients

G03 Australasian College for Emergency Medicine
PG52 Australian and New Zealand College of Anaesthetists
IC-10 College of Intensive Care Medicine

August 2025

G03

Australasian College for Emergency Medicine

COLLEGE OF INTENSIVE CARE MEDICINE
OF AUSTRALIA AND NEW ZEALAND

ANZCA
Australian and New Zealand College of Anaesthetists and the Faculty of Pain Medicine

acem.org.au

Document Review

Timeframe for review:	Every five years, or earlier if required
Document authorisation:	Australasian College for Emergency Medicine (ACEM) Australian and New Zealand College of Anaesthetists (ANZCA) College of Intensive Care Medicine (CICM)
Document implementation:	ACEM, ANZCA and CICM
Document maintenance:	ACEM, ANZCA and CICM Joint Review Group

Acknowledgements

Many thanks to the contributors to the Joint Guideline Review Working Group.

1. Purpose

The aim of this document is to assist clinicians, health services and organisations develop and implement strategies and protocols for the transport of critically ill patients in order to minimise risks and maximise safety for patients and accompanying staff during transport.

2. Scope

This guideline is intended to apply to all doctors engaged in transporting critically ill patients. It is also intended to apply to multidisciplinary teams involved in transport, including paramedics, nurses, midwives, air crew and other support staff.

3. Background

The *Guideline for Transport of Critically Ill Patients* is in its fourth iteration. The constantly evolving technology and knowledge in this area necessitates the regular review of this guideline to ensure it remains current and reflects evidence-based best practice.

It has been jointly produced and reviewed by the Australasian College for Emergency Medicine (ACEM), Australian and New Zealand College of Anaesthetists (ANZCA) and College of Intensive Care Medicine (CICM)

4. Categories of Transport

Transport of critically ill patients may be required in three sets of circumstances: pre-hospital transport, inter-facility transport, and intra-facility transport.

4.1 Pre-hospital Transport

A pre-hospital task (primary) is any clinically coordinated task that involves a patient requiring assessment, with or without intervention, in the out-of-hospital environment. A patient assessment with or without intervention may occur by the roadside, in a public place or in a private dwelling. It is a location that does not normally have 'medical' personnel on site to assess and manage the patient. The out-of-hospital environment typically has no or limited health resources available, such as oxygen, suction and other conventional treatment therapies, although these may arrive with healthcare teams (e.g., ambulance).

4.2 Inter-facility Transport

For patients with acute life-threatening illnesses, emergency inter-facility transport may be needed due to either lack of diagnostic facilities, staff, clinical expertise and/or facilities for safe and effective therapy in the referring facility.

A *retrieval task* is a clinically coordinated inter-facility transfer of critically ill patients using a specialised team, transport platforms and equipment. The scope of these tasks encompasses transfers from and between all health care facilities with an inpatient capability and includes patient transfers to and from an Intensive Care Unit (ICU).

Transport risks and benefits need to be considered when transport is undertaken, and a fully resourced transport team is not immediately available.

4.3 Intra-facility Transport

Transport of critically ill patients from one area of a healthcare facility to another area within that facility, such as from the emergency department (ED) to the ICU, to radiological services within the facility, and between critical care areas. This is usually undertaken by critical care specialists within the facility.

5. General Principles

5.1 Quality of Care

The level of care provided during transport should aim to at least equal that at the point of referral and should prepare the patient for admission to the receiving service. Clinical care provided for a critically ill patient should account for the time-sensitive nature of the illness or injury, for both the interventions performed at the referral site and required on arrival to the receiving facility. The preservation of the dignity of patients during transport is also essential. It is important that transport teams, as much as reasonably practicable, communicate with the patient and/or their carer about their care and where they are going.

For pre-hospital cases, or where little is known about the patient, transfer activities should be performed by doctors who are familiar with working in the pre-hospital and/or retrieval environment as well as the specifics of the patient (i.e., adult, paediatric, neonatal), the pathology and the management required. In the case of inter-hospital and intra-hospital transfers, or where more is known about the patient, transfer activities should also be performed by doctors whose experience and expertise is relative to the environment and specifics of the patient, the pathology and the management required.

The management and transport of some patient groups with specific needs is highly specialised. It is vital that retrieval teams have the competency and equipment to deal with the specific needs of the patient they are tasked to transport. This includes pediatrics which is due to many aspects of their anatomy, physiology and their patterns of illness or traumatic injury. This is particularly relevant in neonates, infants and younger children, or where there are other complex patient factors. For these patients, specialised teams with appropriate training and equipment should undertake transport tasks, and coordinate or assist with coordination, where they are available. The psychological care of the child is also paramount, and all effort must be made to reduce any stress on the child and their family. Whenever possible a parent or carer should travel with the child, particularly during pre-hospital and inter-hospital transfers.
Administrative

Organisations engaging doctors in patient transport should cover all aspects of transport of the critically ill (e.g., advice for such matters as insurance, budgeting and personnel). Staff training, safety and protection is a dual responsibility of the employer and the employee. The employer should carry insurance for all contingencies related to patient transport activities and should also provide personnel with personal protective equipment and instruction as required.

5.2 Responsibility

The chain of responsibility should be clear throughout patient transfer and should aim to minimise transfers in care (i.e, minimise changes in clinical care team). Formal handover from referring doctor to the retrieval team and from the latter to the receiving doctor is essential (see ACEM document *Guideline on Clinical Handover in the Emergency Department*[1] and ANZCA professional document *PS53 Statement on the Handover Responsibilities of the Anaesthetist*[2]).

6. Clinical Governance

6.1 Coordination, Communication and Initial Response

Clinical coordination should be determined by the circumstances and location of the critically ill patient and may require dedicated multidisciplinary (medical, nursing, paramedical, logistical) coordination systems or processes led by experts offering high level clinical and logistical advice and decision-making.

Initiating patient transport should be simple, with clear guidance and communication channels. Ideally, the referring doctor should make only one telephone call to initiate a retrieval or patient transfer. In all situations requiring transport of the critically ill, rapid response of the transport system and minimal delays are paramount.

[1] Refer ACEM P36 *Clinical handover in the emergency department 2020.*
[2] Refer ANZCA PS53(A) *Position statement on the handover responsibilities of the anaesthetist 2013.*

It is crucial that there be reliable communication at all times between the pre-hospital and retrieval team, senior doctors at referring and receiving institutions, and ambulance services. Every effort should be made to prepare for contingencies for areas with unreliable communications.

Clear criteria and guidance for team responses should be utilised in collaboration and coordination with emergency services. There should be timely assessment of emergency calls (e.g., via 000/111) and the ability for emergency services to request retrieval team activation for cases where interventions by the team may be required. For emergency, time critical pre-hospital and inter-facility transports, dispatch of the retrieval team to the referring facility should not be delayed pending the identification of a receiving facility.

At the time of first contact, clinical advice can be provided to referral staff ideally through a clinical coordination centre. Irrespective of clinical coordination team, input for pre-hospital and inter-facility transfers, advice may be sought from other senior specialists. This could take the form of multi-party tele- and videoconferences.

Planning and intervention priorities should include:

- immediate care or advice
- tele-medicine
- need for retrieval team and optimal skill set required
- urgency of dispatch
- destination planning
- consideration of complex decision-making involving logistics, crew, and transport platforms
- creation of pre-flight assessment documentation and updates on clinical and logistical considerations during transport

6.2 Documentation Standards

Complete and accurate documentation for each patient in compliance with legislative requirements is essential. The clinical record should, at a minimum, document:

- the patient's personal details, clinical status before, during and after transport, relevant medical conditions, medications and allergies, procedures performed, treatment(s) provided, consent obtained
- where applicable, any logistical events and, mission and logistical details
- Ideally, clinical records should be electronically recorded, including timings
- For pre-hospital and inter-facility transfers, documentation should be handed over to the receiving facility and a copy retained by the retrieval service
- Each record should include the names and designations of the treating clinicians and be signed and dated
- Standardised data points managed through a centralised registry will assist ongoing continuous quality improvement and benchmarking at both national and international levels
- There should be accurate documentation of regular daily, weekly and monthly equipment and medication checks including damage and failures and any actions to address them

6.3 Quality Improvement and Audit Processes

There should be a system for regular case review to assess level of care provided, transport processes and logistics. These reviews should include all aspects of the transport process and be inclusive of any applicable issues regarding coordination, transport factors, crew issues, crew resource management and medical management.

The audit process should, where possible, involve multidisciplinary attendance from referring and receiving centres and emergency services. Audits could include morbidity and mortality, data review, outcome data, complex interventions, learning from excellence and system and process timelines.

Provision should be made for feedback to and from the referring and receiving facilities, in addition to patients and community stakeholders.

6.4 Clinical Effectiveness, Research and Development

Operational and clinical performance indicators should be established using an evidence-based approach. These performance indicators should be monitored, benchmarked, regularly reported, and ideally, be submitted to a registry.

Research should be encouraged and supported to develop evidence to enhance patient care, service safety and efficiency.

A means of patient follow-up after transport should be available to staff involved to assist in evaluation of individual, organisational and system performance. This requires organisation-level cooperation between transport services and both public and private facilities.

6.5 Peer Review

Learning from clinical cases is an essential part of the practice of medicine. There should be opportunities for peer review within the organisation or specialist colleges[3][4].

Peer review should:

- Foster the development of reflective practice;
- Focus on opportunities for system improvement;
- Acknowledge that some poor outcomes are unavoidable, despite the correct and diligent decisions and actions of staff;
- Be used for educational purposes, and not for apportioning blame to individuals; and
- The system should also provide an educational function for all applicable components of the transport service.

6.6 Safety and Risk Management

Each service should have an up-to-date risk register and be encouraged to undertake ongoing assessments of hazards, risk and risk mitigation, as applicable to both clinical and organisational risk. Use of safety strategies, such as checklists, as part of their overall risk mitigation strategy may be most helpful. Where multiple organisations work together, the safety and risk management systems of each service should be accessible and transparent to each other, with channels for communication and loop closure.

The interdisciplinary team should be subject to any organisation-specific fatigue management policies, where they exist or specific discipline guidelines,[5] that include rest breaks, down-time between shifts, consideration for working longer than rostered duty hours and where applicable, enabling fatigue-related stand–downs. A specific tool for monitoring fatigue should be used.

A system for reporting and reviewing near-miss, adverse and sentinel events in a timely fashion should be in place, supported by a non-judgemental and non-accusatory clinical safety framework, recognising the importance of a *safety 2* approach.[6] Sentinel events should include any major adverse events relating to patients, crew, or equipment, including patient deaths.

---

[3] Refer ANZCA/FPM CPD Standard
[4] Refer ACEM G832 *Guidelines on Case Review Meetings*
[5] Refer ANZCA PG43(A) *Guideline on fatigue risk management in anaesthesia practice 2020.*
[6] Hollnagel E, Wears R L and Braithwaite J, 2015, *From Safety-I to Safety-II: A White Paper.* Published simultaneously by the University of Southern Denmark, University of Florida, USA, and Macquarie University, Australia. Available at: https://www.england.nhs.uk/signuptosafety/wp-content/uploads/sites/16/2015/10/safety-1-safety-2-whte-papr.pdf

7. Staffing

7.1 Credentialing and Scope of Clinical Practice

Credentialing processes should consider any formal training and qualifications of doctors engaged in transport and/or retrieval services to gauge their competence, performance and professional suitability to optimise safety, and ensure high-quality medical care when transporting critically ill patients. Credentialing should account for formal qualifications, professional training, clinical experience and related continuing professional development. Doctors should maintain a clinical workload in their base specialty to support clinical competence in their transfer activities.

It is critical that doctors are briefed on, and familiar with, capabilities, limitations, safety, emergency and evacuation procedures for the transport platforms utilised. If helicopter retrieval and transport flights occur over water, doctors should complete a helicopter underwater escape training (HUET) course and maintain that competency as per local aviation guidelines (for example Civil Aviation Safety Authority, Civil Aviation Authority).

It is essential that junior staff possess extensive experience in their parent specialty, as well as specific skills and experience, to safely operate in this environment where there may be an absence of direct real-time clinical support. Doctors with relevant current experience in transport and/or retrieval services should be available to instruct and supervise junior staff and to provide real-time clinical support as required.

7.2 Resourcing

Retrieval teams should comprise a minimum of two clinicians, with the requisite scope of clinical practice. Patients should be retrieved in a timely manner to adequately resourced receiving units.

Intra-facility transport teams should comprise at least one clinician with the requisite scope of clinical practice. Patients should be transported in a timely manner to adequately resourced receiving units.

7.3 Training Considerations

The training requirements will vary according to the nature of the transport. Critical care specialist training equips specialists in those disciplines for intra-hospital transport. The additional complexities of inter-hospital and pre-hospital retrieval requires familiarity with this environment, and additional training specific to this service is encouraged.[7]

All new doctors involved in pre-hospital patient transport should undergo training in all aspects of patient transport outlined in this document and undertake supervised patient transports prior to independent transport duties. Training should include instruction in local pre-hospital systems, organisational and transport vehicle- related matters and the defined team role and functions of both medical and non-medical personnel.

7.4 Staff Support and Wellbeing

In addition to individual responsibilities for wellbeing, organisations and health services should have established staff support and access to wellness, wellbeing and psychological support programs for all clinicians.

8. Transport

Organisations and health services should consider the suitability of the principles under each specific sub-heading and their impact on service provision. The items in subsequent sections are not intended to be an exhaustive list.

[7] Refer to Appendix 1.2 for additional information

8.1 Pre-hospital Transport

- Doctors who are deployed to provide pre-hospital treatment and transport are expected to provide care that approaches that available in a critical care space
- Pre-hospital doctors need to be familiar with local ambulance and emergency service protocols, roles, responsibilities and equipment. They should be trained to integrate and collaborate with these services prior to deploying into the pre-hospital environment
- Local, regional and state disaster plans should be provided or available. They must have appropriate logistical skills, understand the roles they may be required to perform, and be adequately trained and equipped to perform these roles
- All personnel involved in disaster response planning and coordination should be fully aware of the skills and expertise the retrieval team can bring to the disaster scene
- Retrieval teams should be familiarised with the range of communication devices used, including local radio protocols
- It is essential that doctors involved in pre-hospital rescue work are sufficiently healthy and physically fit to perform rescue tasks safely. Doctors involved must have undergone suitable training and competency assessment
- Maintenance of competency for doctors involved in helicopter winch (hoist) rescue work in accordance with local, national and service-specific operational procedures and standards is a requirement
- There should be dedicated pre-hospital teams, who are free from other duties during the transport

8.2 Inter-facility Transport

- Inter-facility transport of critically ill patients should be performed by qualified retrieval teams that include an experienced doctor
- The team should be familiar with their transport equipment, particularly power and oxygen supply limitations
- The team should have a clinical understanding of the patient's medical condition, potential transport complications and treatment options available to them prior to and during transport
- On extended journeys, sufficient staff should be carried to allow maintenance of high standards of patient care, and permit staff rest periods
- Specifically trained teams are desirable for the transport of certain patient groups, such as neonates, and patients requiring extracorporeal life support
- Where it would be immediately lifesaving, the transport of specialist medical assistance (e.g., a neurosurgeon or neonatologist) to the referring hospital could be considered. However, the risk of placing untrained personnel in an unfamiliar transport environment, specialist equipment limitations and the additional response time, should always be balanced with the potential benefit to the patient
- Bariatric patient retrievals pose particular clinical and logistical challenges and services should have policies addressing manual handling and safe transport issues for this patient group
- Special considerations are also required for long-haul and international patient retrievals. These are not detailed in this document
- There should be dedicated transport teams, who are free from other duties during the transport

8.3 Intra-facility Transport

- Key personnel for each transport event should be identified

- In addition to a doctor with the specific skills and training required to safely undertake the task, the transport team should include as a minimum, a qualified registered nurse, and an orderly
- Whilst most intra-facility transports are not done by dedicated teams, the principles of transport are similar to pre-hospital and inter-facility retrieval
- Each team should be familiar with the equipment and have expertise with airway management, respiratory and circulatory support, and managing other potential medical emergencies occurring during transport
- Intra-facility transport teams should be free from other duties during the transport

8.4 Choice of Transport Platform

The choice of transport platform is multi-factorial and should be made by suitably qualified and experienced members of the transport team, and where applicable, via clinical coordination centre.

Factors affecting the choice of transport platform include:

- Nature of illness
- Patient size and weight
- Clinical urgency
- Location of patient
- Potential clinical impact of the transport platform
- Intervening geography between patient and destination medical facility
- Distances involved
- Transport platform availability
- Road transport times and road conditions
- Weather conditions and aviation restrictions for airborne transport
- Number of retrieval personnel and volume of accompanying equipment
- Aircraft landing facilities
- Range and speed of vehicle
- Availability of resources at the referring site
- Familiarity and training of retrieval staff on transport platform(s) available
- Medical and transport team fatigue limitations

8.5 Transport Platform Requirements

Transport platforms should be matched to the task in terms of design (including cabin environment) and equipment in accordance with local regulations. Medical fittings to aircraft, and bulky items carried need to be approved by the relevant aviation authority. Regular inspection and servicing of vehicles and on-board equipment is required. Particular requirements relate to:

- Safety of both patient and staff
- Ability to respond to time-critical requests
- Space for patient access and to perform acute medical interventions (as a minimum, ready access is needed to the head and one complete side of the patient)
- Power and gases for life support systems
- Suction
- Safe access for embarkation and disembarkation for both patient and team
- Lighting and internal climate control
- Restraints for stretcher, equipment and passengers

- Acceptable noise and vibration levels and noise protection for all passengers and patients
- Good communication systems, both internal and external
- Both auditory and visual patient monitoring alarms

8.6 Air Transport Risks

Air transport exposes patients and crew to particular risks, including:

- Limited space, lighting and facilities for interventions
- Noise
- Thermal stress (both hot and cold)
- Extremes of humidity
- Acceleration, deceleration and turbulence
- Vibration
- Electromagnetic interference between avionics and monitoring devices
- Danger from loose, mobile equipment
- Motion induced illness
- Reduced oxygen partial pressure
- Changes in ambient pressure (the potential need for pressurisation when clinically indicated)
- Risk of rapid depressurisation
- Expansion of air-filled cavities (e.g., tracheal tube cuff, middle ear)
- Worsening of air embolism or decompression sickness
- Psychological stressors (e.g., fear and panic that may cause safety issues or negatively impact the patient's underlying injury or illness)
- Risks to team from agitated patients

8.7 Pre-departure Assessment

With all transport platforms:

- Provision of a secure airway, intravenous access, security of all indwelling devices, and patient monitoring before departure are essential
- Where feasible, stabilisation is fundamental for safe transport. Stabilisation of clinical condition should occur prior to transport. The only exception to this is if stabilisation can occur only with treatment available at the receiving facility (e.g., ongoing post-traumatic internal haemorrhage)
- The patient should be reassessed before transport begins, especially after being placed on monitoring equipment and the transport ventilator (if used). Fundamental patient care should not be overshadowed or neglected during transport preparations
- Final preparation of the patient should be made prior to transport, with anticipation of clinical needs. This includes ensuring sufficient medications and infusions for the duration of transport and emptying drainage bags prior to departure
- Patient personal protective equipment (PPE), such as hearing and eye protection, should be utilised as required
- Care should be taken to protect the patient from thermal stress (both hot and cold) in addition to any adverse environmental factors such as wind, rain, noise and bright sunlight
- Clinical deterioration should be anticipated
- Use of a pre-departure checklist is advised to ensure that all tasks are completed

9. Equipment

9.1 General Considerations

- In addition to the equipment being carried satisfying the anticipated needs for each transport[8], consideration should be given to the transport duration, patient's diagnosis, severity of illness and level of therapeutic intervention
- When choosing equipment, attention should be given to size, weight, audio volume, battery life, oxygen utilisation and durability (robustness), as well as to suitability for operation under conditions of transport
- Personal protective equipment that meets national standards should be provided so that safety of the team is not compromised and that they are highly visible and easily identifiable
- Patient stretchers and all equipment must comply with aviation/ambulance regulatory standards and requirements
- Compatibility of all electrical and gas supply fittings of all equipment with those of the transport vehicle should be confirmed
- All equipment should be maintained according to regulations/manufacturer standards, and stored securely
- Ready availability and access to items that may be required during transportation should be ensured
- Consumables, including oxygen and pharmacological agents, should be in excess of that estimated for the maximum transport time. For planning purposes, the amount required plus a minimum 20% buffer should be pre-determined. For oxygen, this buffer should be 50-100%. Equipment redundancy should be factored in; and
- Specialised equipment will be required for certain transports, for example, for neonatal, paediatric and bariatric patients, and those requiring extra-corporeal life support or intra-aortic balloon pumps.

9.2 Pharmacological Agents

The range of drugs available should include all medications necessary to manage acute life-threatening medical emergencies and those specific to the patient's clinical condition. Close attention should be paid to drugs that require a cold chain to maintain effectiveness. All drugs should be checked and clearly labelled prior to administration.[9]

10. Clinical Monitoring

Vital signs relevant to the patient should be recorded regularly. Additional observations or results should be documented clearly when taken. Monitoring of patient is essential during transport and includes the physiological variables listed below. Monitoring equipment should have both audible and visual alarms.

[8] Suggested minimum equipment lists can be founded in Appendix 1.3
[9] Refer to sections 5.3 and 5.4 of ANZCA PG51(A) *Guideline for the safe management and use of medications in anaesthesia 2021.*

10.1 All Transport

- Pulse rate and ECG trace
- Blood pressure (invasive and non-invasive)
- Respiratory rate
- Oxygen saturation
- Continuous waveform capnography for all ventilated and/or sedated patients
- Glasgow coma score
- Pupil response
- Temperature
- Ventilator parameters including low/high pressure alarms
- Capillary refill

10.2 Inter-facility and Pre-hospital Transport

In addition to the above, the following monitoring should be included:

- Blood glucose
- Urine output
- Pain score
- Point of care ultrasound
- Point of care blood analysis
- Ventilator parameters including low/high pressure alarms
- Other compartmental pressures when indicated (e.g., Intracranial Pressure, Intra-abdominal etc.)
- Pressure areas

1. Appendix

1.1 Background

Critically ill patients have life-threatening illnesses or injuries that are associated with reduced or exhausted physiological reserves. Transporting such patients exposes them to additional risks and requires the services of appropriately trained and skilled practitioners. Patients with critical illness or injury may require transportation to or within a healthcare facility for treatment or ongoing critical care.

A summary of responsibilities includes, but is not limited to:

- Safe movement of the critically ill patient
- appropriate planning of transport
- appropriate and agreed communication strategies
- deployment of appropriately trained staff with essential equipment
- planning for possible deterioration

Advances in pre-hospital retrieval include the evolution of clinical coordination, clinician training, and the development of enhanced safety practices, such as checklists, standardised operating procedures and standardisation of equipment. These advances are applicable to all retrieval and transport services.

1.2 Education and Training Considerations

Doctors engaged in the transport of critically ill patients may be required to work in a range of challenging environments. Doctors need to have the requisite skills and knowledge to provide the highest level of care for the patients they are likely to encounter.

Education and training should be based on the clinical governance model, where outcomes of audit and review guide the learning needs of the individuals, teams and organisations. A regular, structured training program specific to role should be provided in protected time. This should cover clinical, operational, human factors and aviation training where required. Training modalities should include online education, face-to-face workshops, simulations and supervised (buddy) shifts.

Since the last version of this document, the key colleges (ACEM, ACRRM, ANZCA, CICM and RACGP) have been working together to develop a curriculum, framework and Diploma in Pre-hospital Retrieval Medicine (DipPHRM).[10]

1.3 Suggested Minimum Equipment List

Local regulations will stipulate minimum requirements for transport platforms with regard to design and equipment. The following section details is intended to serve as a suggested list of equipment for pre-hospital and transport services, noting that equipment requirements are contingent upon the type of services provided.

Respiratory Support Equipment

- Airways (range of oral, nasopharyngeal, and, supraglottic airways and tracheal tubes)
- Portable oxygen, oxygen and nebulizer masks, nasal prongs
- Self-inflating bag valve mask
- Heat-moisture exchanger (HME)/pathogen filter
- Positive end-expiratory pressure valve
- Suction equipment compliant with existing standards
- Portable ventilator capable of invasive and non-invasive ventilatory support with disconnect and

[10] Pre-Hospital and Retrieval Medicine, ACEM. Available at: https://acem.org.au/Content-Sources/Certificate-and-Diploma-Programs/Pre-Hospital-and-Retrieval-Medicine

high-pressure alarms

- Intubation equipment, including video-laryngoscopes and bougies
- Emergency surgical airway equipment
- Difficult airway equipment
- Pleural drainage equipment

Monitoring and Circulatory Support Equipment

- Multi-function monitor capable of continuous ECG (including 12-lead), NIBP, SpO2, ETCO2, and invasive temperature and pressure monitoring
- Defibrillator/external pacer combined unit
- Standalone pulse oximeter
- Continuous waveform capnography monitor (if this is unavailable, continuous capnometry without a waveform display may be used)[11]
- Aneroid sphygmomanometer with a range of cuff sizes and stethoscope
- Thermometer
- Torch
- Glucometer with lancets and test strips
- Peripheral and central vascular cannulae (standard and large-bore/rapid infusion)
- Intraosseous access device with needles for, paediatric, adult and bariatric patients
- Intravenous fluids and pressure infusion set
- Blood and blood transport container
- Fluid warming device (suitable for a range of fluids, including blood)
- Infusion pumps and syringe drivers
- Arterial cannulae and pressure transducer kit
- Syringes and needles
- Automated CPR device
- Pericardiocentesis and thoracotomy equipment
- Specialist haemorrhage control items
    - Arterial tourniquets;
    - Haemostatic dressings
    - For Maxillofacial haemorrhage

Other Clinical Equipment

- Portable ultrasound equipment
- Gastric tubes and bag
- Urinary catheters and bag
- Thermal insulation and heat-generating blankets
- Patient extrication and movement devices
- Vacuum mattress
- Equipment for spinal, pelvic and limb immobilisation and splinting
- Neonatal/paediatric/obstetric transport equipment (when applicable)

[11] Chrimes N, Higgs A, Hagberg CA, Baker PA, Cooper RM, Greif R, et al. Preventing unrecognised oesophageal intubation: a consensus guideline from the Project for Universal Management of Airways and international airway societies. Anaesthesia. 2022 Dec;77(12):1395-1415.

- Dressings, bandages, slings, and tape
- Suture pack and sterile gloves
- Field amputation equipment
- Regional anaesthesia equipment
- Trauma shears
- Clinical PPE
    - Gloves
    - Eye protection
    - Gown
    - Mask
    - Hair covering
- Patient PPE
    - Hearing protection
    - Eye protection
    - Thermal
- Sharps disposal container and bag for biological waste.

Non-clinical Equipment for Retrieval and Transport Teams

- Head torch
- Heavy duty gloves, helmet and boots (pre-hospital and rescue response)
- Communication devices and chargers (mobile phones, radios)
- Hearing and eye protection
- Wet, cold and warm weather gear
- High-vis outdoor wear
- Survival equipment



Australasian College for Emergency Medicine
34 Jeffcott Street
West Melbourne VIC 3003
Australia
+61 3 9320 0444
admin@acem.org.au

acem.org.au