

Regulatory impact statement

Non-emergency patient transport services regulations 2005

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August 2005

This Regulatory Impact Statement has been prepared in accordance with the requirements of the *Subordinate Legislation Act 1994*. Its purpose is to inform interested parties regarding the proposed new regulations.

Comments and submissions are invited by 5 September 2005 and should be addressed as outlined in the Foreword.

Prepared by the Ambulance Services Unit, with the assistance of Jaguar Consulting Pty Ltd

Published by the Programs Branch, Metropolitan Health and Aged Care Services Division,
Victorian Government Department of Human Services, Melbourne, Victoria

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Authorised by the State Government of Victoria, 595 Collins Street, Melbourne, Victoria.

Printed by Bigprint, 520 Collins Street, Melbourne.

August 2005

Foreword

Section 7 of the *Subordinate Legislation Act 1994* provides that ‘unless an exception certificate or an exemption certificate is issued in respect of a proposed statutory rule, the responsible Minister must ensure that a regulatory impact statement is prepared in respect of a proposed statutory rule’.

This Regulatory Impact Statement has been prepared with respect to the proposed Non Emergency Patient Transport Services Regulations 2005.

The Regulatory Impact Statement assesses the likely costs and benefits of the proposed statutory rule and discusses possible alternatives.

Notice of the preparation of this Regulatory Impact Statement has been given by the Minister for Health, in accordance with section 11 of the *Subordinate Legislation Act 1994*. Interested organisations, health professionals and members of the public are now invited to make comments and submissions.

Responses to the Regulatory Impact Statement should be addressed to:

Lidia Slucki
Senior Project Manager
Ambulance Services Unit
Department of Human Services
GPO Box 4057
MELBOURNE VIC 3001
Fax: 03 9616 1322
Email: lidia.slucki@dhs.vic.gov.au

The closing date for receipt of comments and submissions is 5 September 2005.

It should be noted that all comments and submissions received in response to this Regulatory Impact Statement will be treated as public documents.

Summary

The *Non-Emergency Patient Transport Act 2003* (the Act) requires that, as of 1 February 2006, all non-emergency patient transport (NEPT) services must be licensed in order to be able to transport patients in Victoria. New regulations are required to support the new Act. The key elements of the proposed regulations include:

- identification and description the classes of NEPT services
- requirements relating to the number of staff needed to provide each class of service and the qualifications that are to be held by operational staff within a NEPT organisation
- requirements relating to the granting of standby accreditation
- description of records that must be retained by NEPT organisations and identification of key elements that must be present in patient care and staff records
- requirements regarding the information that must be provided to the patient, by a NEPT organisation, at the time of transport
- requirements relating to the development and implementation of an infection control management plan (ICMP)
- requirements relating to the maintenance of vehicles and equipment, including preventative maintenance schedules
- requirements regarding professional indemnity insurance and public liability insurance
- requirements relating to aircraft and medical equipment, aircraft configuration and cabin specifications when using aircraft to undertake non-emergency patient transports
- prescription of forms relating to licensing, granting of approval in principle and standby accreditation.

The proposed regulations have been developed in close consultation with stakeholder groups, with feedback to date indicating that, as they attempt to codify good practice, they are broadly supported in the field. However, aspects of the proposed regulations will impose additional costs on NEPT providers. In particular, regulations relating to quality accreditation, mobility aids and the introduction of shock advisory external defibrillators (SAEDs) have significant cost implications. These implications have been recognised and addressed by providing a significant delay in the date on which compliance with these aspects of the regulations will be required.

The estimated costs of the regulations total \$3.2 million over ten years in net present value (NPV) terms. These costs are composed of one-off costs of \$1.43 million, which will be incurred between 2006 and 2009, and recurrent costs of \$0.28 million per annum. The total cost of \$3.2 million is equivalent to less than one dollar per patient transport expected to be undertaken over that period. The cost is, therefore, considered small in proportionate terms and is expected to be substantially outweighed by benefits measured in terms of:

- reduced transactions costs to purchasers of NEPT services who will no longer be required to satisfy themselves of the capacity and competence of potential contractors due to the quality assurance supplied by the regulatory standards
- increased public confidence in the NEPT industry as a result of the implementation of detailed regulatory standards, supported by monitoring and enforcement requirements
- increased levels of safety due to more systematic management of key issues including infection control and vehicle staffing requirements.

Three alternatives to making the regulations have been identified and assessed. These involve adopting voluntary accreditation, imposing conditions on licenses using the Secretary's statutory discretion and adopting alternative formulations of the regulations. However, the Regulatory Impact Statement (RIS) concludes each of these approaches is inferior to the proposed regulations in benefit and cost terms. The proposed regulations are, therefore expected to confer the greatest net benefit.

The proposed regulations have been assessed as required under National Competition Policy and have been judged to be fully compliant with that policy.

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1. Introduction

In its 2002 policy, *Hospitals for the suburbs*, the government committed to introducing legislation to regulate the provision of non-emergency patient transport (NEPT) services. In October 2003, the State Parliament passed the *Non-Emergency Patient Transport Services Act 2003* (the Act). This legislation is a key step towards the government's commitment to assuring the safe operation of the NEPT sector. The Act provides for regulations to be made to set minimum standards for non-emergency transport. These minimum standards may vary according to the clinical condition of the patient to be transported.

The NEPT sector emerged in Victoria as a separate industry over 10 years ago as a result of the deregulation of transport fees. As a result of a loosening of these regulatory constraints, a largely private industry has evolved which now accounts for the great majority of NEPT services. In the absence of any other regulatory authority, the NEPT sector has effectively relied on ambulance services to establish standards for care delivery. However, the regulatory structure that applies to ambulances (the *Ambulance Services Act 1986* and associated regulations) does not formally apply to the NEPT sector.

As a result, there have been no compulsory standards applicable to this sector, nor any authority monitoring actual practice in the industry, including the quality of care delivery. In the context of the government's commitment to assure the safe operation of the NEPT sector, it was considered necessary to formally regulate the NEPT industry.

The *Non-Emergency Patient Transport Act 2003* formally acknowledges the existence of the NEPT sector as a part of the health industry in its own right and establishes its obligations to operate in the best interests of patients. The new system of licensing and regulation that will be established by the Act is intended to provide assurance to users of the service regarding minimum quality standards. The licensing and monitoring functions will be vested in the Secretary of the Department of Human Services and will take effect no later than 1 February 2006. Operating an unlicensed NEPT business will be an offence after that date.

In Victoria, the NEPT sector can be described in the following terms:

- there are 11 privately owned and operated organisations. These companies undertake approximately 350,000 transports per annum, using 178 vehicles and employing approximately 700 individuals
- four of the 11 companies account for 90 per cent of the existing NEPT market
- there are 4 known hospitals that run their own transport services for patients that will be covered by these regulations
- the Metropolitan Ambulance Service (MAS) contracts out the provision of NEPT services to private operators and undertakes some non-emergency transports itself
- Rural Ambulance Victoria (RAV) directly provides both emergency and non-emergency services and engages private providers to undertake transports on its behalf. MAS, through its Air Ambulance Victoria section, undertakes non-emergency patient transports in its fixed wing aircraft
- there is one known private provider who transports patients to and/or from medical services, using aircraft with its staff monitoring or managing patient care during transit
- major purchasers of NEPT services include the public ambulance services, hospitals/health services, the Department of Veterans Affairs, Transport Accident Commission, the Victorian WorkCover Authority, and health insurers.

2. Nature and extent of the problem

Overview

The *Ambulance Services Act 1986* contains a range of mechanisms by which the government and Department of Human Services can oversee, monitor and set standards in the public ambulance services to ensure patients receive high quality care. These powers do not currently extend to directly regulating the standard of care provided by private providers in the non-emergency sector.

In metropolitan Melbourne, private providers undertake the majority of non-emergency transports through either direct arrangement with purchasers, such as public hospitals or through contractual arrangements with the MAS. Outside metropolitan Melbourne, RAV and private providers provide non-emergency transports.

Private providers must comply with the requirements of the *Transport Act 1983*. This Act requires commercial passenger vehicles to be licensed by the Victorian Taxi Directorate. As a means of segregating this transport sector from other commercial passenger services such as taxis and hire cars, conditions are attached to licences issued by the Victorian Taxi Directorate. However, most of these conditions relate to vehicle specifications and driver licence requirements.

Given the broad range of patients currently transported by private providers of non-emergency transport services, the term 'non-emergency' should not be taken to mean 'not seriously ill' nor to mean 'no clinical skills are required' to transport these patients. Rather, patients transported by the NEPT sector are those who do not require and are not likely to require a time critical ambulance response¹. The users of NEPT services are patients with varied clinical needs travelling from home to health services, between health services and from health services to home. They require this form of transport to attend a variety of outpatient clinics and diagnostic procedures and are also transferred between facilities to allow access to appropriate medical treatment.

Approximately 350,000 patient transports are undertaken by private NEPT organisations annually. Government considers it essential to assure the quality of the services provided by these organisations.

Patients, as a result of age, illness and frailty, rely on health services and health professionals to make decisions regarding patient transport service providers on their behalf. Patients do not have the ability to elect to travel with a NEPT provider other than that organised by the health service, or health professional. Patients do not have the necessary knowledge to discern whether an appropriate level of clinical care is being provided by a NEPT organisation.

The vast majority of non-emergency patient transports are organised by health services contracting with NEPT providers to deliver the transport service to patients on their behalf².

Some health services have developed specifications for their own service delivery and have relied on contractual agreements with external providers to provide assurances of quality service provision.

During consultation with health services, comment was made that the development of service specifications required access to specialised knowledge specific to the NEPT industry. It was apparent that there were different expectations regarding the specific standards required to deliver appropriate clinical care. Health service specifications vary considerably across the state as a result. Health services also commented on the costs to them of developing their own

¹ That is, the initial request for service is not made on a time-critical basis and no situation is likely to arise during the patient transport that will become a time-critical one.

² Some health services also undertake a small number of patient transports on their own behalf.

service specifications and monitoring contractual compliance, and the waste of effort across all health services in duplicating these processes.

Health services have been unable to quantify the exact costs to their organisations, due to the many variables such as the number and type of staff and the number of functional units involved in the development of contracts and the monitoring of contractual requirements. For example, one metropolitan area health service has indicated that the tender specification development process involves contracts management and occupational health and safety personnel, as well as clinical personnel from several of its campuses. While the staff salaries are fixed costs to the organisation, the 'saving' to the organisation expected to be reaped as a result of the proposed regulations, will be in relation to the regulations providing a baseline for all health services to use in the development of their specifications. A further saving is also expected as a result of the Department of Human Services undertaking the monitoring of NEPT provider compliance with the regulations. Health services will be able to focus more on the financial aspects of the tender and any requirements in addition to those identified in the regulations. Health service personnel previously involved in discussions regarding baseline specification development will be able to spend more time in their core activity areas.

The following supplements this general discussion of the nature of the problem and explores the expected contribution of the regulations to resolving the problems identified.

Part 2 - Classes of non-emergency patient transport services

Historically, the criteria that have determined patient eligibility for NEPT road and air transport were based on the location to which the patient was being transported, for example, attendance at an outpatient department. There has been no agreed method of allocating suitable resources for a particular patient profile. This determination has been left to the clinical judgement of individual NEPT organisations.

Clinicians, through the consultation process have agreed that the criteria need to be patient centered and the framework adopted needs to be simple and workable within current environments. The use of clinical diagnosis was eliminated as an approach, given the number of diagnostic related groups recognised by the health sector. A single staff configuration with a single qualification mix was considered to be inappropriate to address the large range of patient conditions and acuity encountered.

A matrix that matches the acuity of patient illness with appropriate staff numbers and qualifications has been developed. The matrix considers patient clinical traits to determine the suitable level of care required during transportation.

During the consultation process, some health services commented on the lack of clarity as to staff crewing configurations currently being provided by NEPT service providers for the transport of patients with differing levels of acuity. While there have been no known cases or complaints about inappropriate allocations of staff, this matrix aims to provide clinicians, when making decisions regarding patient transport, with guidance and surety in regard to the level of care that they should expect. Defining the qualifications and staff crewing configurations at each level provides this assurance.

There is also a lack of clarity and transparency in the industry about the level of qualification NEPT staff require to transport patients with a mental disorder; and the nature of the patient condition able to be transported by a NEPT organisation. The regulations require that the patient's condition is assessed by a medical practitioner as being stable prior to transport. The regulations require a staffing level above low acuity for all patients with a mental disorder and that two staff transport a sedated patient (with no exemption applying).

Part 3 - Staffing of non-emergency patient transport services

No minimum qualification requirements exist for NEPT personnel, with NEPT organisations making their own determination in this regard. Stakeholders have identified the need for greater transparency of staff qualifications required for transporting low, medium and high acuity patients.

Individuals with various qualifications can be employed as an Ambulance Transport Attendant or a Patient Transport Officer. To ensure consistency of qualifications a method needs to be developed by which staff qualifications and clinical experience can be evaluated as being equivalent to or greater than that of Diploma of Paramedical Science – Ambulance and the Certificate III in Non Emergency Patient Transport. The regulations propose that the equivalence of qualification be determined by an accredited assessor from a registered training organisation (RTO) who holds formal assessor qualifications and relevant industry experience.

During the consultation, purchasers of NEPT services commented that often a NEPT contractor could not be easily differentiated from an ambulance paramedic working in an emergency ambulance service. This is as a result of contractor staff wearing various tags which identify them as an 'ambulance officer', 'qualified ambulance officer', 'ambulance attendant' or 'ambulance transport attendant', leading to some confusion on the part of hospital staff. If the level of qualification is to vary based on patient acuity level, there also needs to be consistent terminology to identify the staff members providing the various levels of care. The regulation proposes a standard method of identification of NEPT personnel.

All sectors of the industry support mandatory annual competency training in key areas of basic life support, occupational health and safety (specifically manual handling and infection control) for all employees, and advanced life support for Ambulance Transport Attendants, Ambulance Officers and Registered Nurses undertaking medium or high acuity transports. The regulation in regard to this matter simply codifies current good practice.

Part 4 - Licensing

The requirement to obtain a NEPT licence is set out in the Act and the licensing framework is defined in these regulations. The regulations propose 6 classes of licence: high, medium and low acuity using road vehicles and/or high, medium and low acuity using an aircraft to transport patients. The classes of licence, in identifying the level of acuity the NEPT provider is able to supply, allow transparency for the purchaser of such services.

The NEPT providers have expressed a view that without some form of quality accreditation it is difficult to provide assurances of the provision of quality care. Without quality systems there are no means by which to measure performance and so improve areas that are deficient. The introduction of quality accreditation as a mandatory requirement is strongly supported by the NEPT industry and the purchasers of NEPT services.

Part 5 - Stand-by services at public events

When a public event is organised, event organisers may elect to employ the services of an organisation to provide a level of medical attention should there be an accident or incident at the event. Event organisers have discretion in determining the appropriate level of resource for an event. Currently, there is a lack of clarity for purchasers regarding the service they are buying. Each year there are approximately 815 public events attended by ambulance service contractors in the metropolitan area, while 480 are attended by contractors in rural areas. The regulations will assist the purchasers of stand-by services to understand the capacity of NEPT providers who offer this service. The regulations will identify that only NEPT providers that have a licence to undertake medium or high acuity transports will be eligible for standby accreditation.

Part 6 - Records

An area of concern for all stakeholders that is directly related to patient safety is the correct identification of patients. Inadequate communication of patient information can undermine the safe and adequate care of patients when in transit and on arrival at their destination.

A problem has been identified within the industry in regard to patient care records. Currently patients transported by a NEPT provider do not all have a patient care record. There are instances where people are transported and not more than a name is captured. Although no records appear to be kept by health services about inappropriate transports, during the consultation process, a health service cited a case where a NEPT provider had transported the wrong patient to a receiving health facility. Given that in many instances individuals being transported are ill, elderly, frail or cognitively impaired, there is a risk of transporting the wrong patient. The regulation proposes that a minimum data set is recorded for patients with different acuity levels being transported by a NEPT provider.

Currently, information about a patient's condition is not always passed on in written form to facilities that are responsible for providing on going care. While health services are able to anecdotally provide instances of inadequate information being passed on, no records appear to be kept, so quantification of the issue is not possible. Health services that receive these types of patients consider it necessary to have a written record of care provided in transit to enable appropriate on-going care. It is for this reason that the regulations require that a written copy of the NEPT patient care record be provided to the person receiving the patient when that patient is of medium or high acuity.

Part 7 - Information provided to patients

It is clear from anecdotal evidence from the ambulance services and the Department of Human Services that patients being transported by NEPT providers often do not know who is transporting them. From complaints received by both the ambulance services and the department, it seems that many individuals believe they have been transported by a public ambulance service when, in fact, a NEPT provider has transported them.

There is general acceptance across the health sector that patients should receive information about the level of service they can expect to receive and also their right to make a complaint regarding service provision. Healthcare organisations currently require a complaints mechanism to be in place to manage such feedback. For example, *Health Services (Private Hospitals and Day Procedure Centers) Regulations 2002* and the *Health Services (Supported Residential Services) Act 2004* both require that a complaints procedure be established. Currently, information about

patient rights and complaints is not made available to users of NEPT services, nor is there any requirement of these services to record or act on information received via a complaints mechanism. The regulation requires a NEPT organisation to provide a business card with contact details to each patient transported by the service, before the completion of the transport. Providing a business card will remove any confusion regarding the organisation providing the service. Patients will also be able to request a brochure that outlines their rights and the complaints procedure to be followed by a NEPT organisation.

It is proposed that each NEPT operator should develop a complaints handling policy and a set of procedures. As a minimum standard, it is proposed that a complaints register for all complaints, written and verbal, is developed, which identifies the nature of the complaint, the date of the complaint, the outcome of the investigation and any action taken.

Part 8 - Infection control

There has been no previous requirement for NEPT organisations to establish or develop infection control programs or plans. As a result, there is no body of evidence of problems within the industry concerning infection control standards or infection rates.

The 2002 Department of Human Services *Report of the Expert Working Group on Surveillance of Nosocomial (hospital acquired) Infections* indicates that between five and ten per cent of hospital patients acquire an infection in hospital. The report indicates that up to one-third of hospital-acquired infections could be avoided by better application of existing knowledge and infection control practices.

Current practice across the health sector is for organisations to have infection control plans in place. This is a requirement for all private hospitals across Victoria. Public hospitals are required to report against a set of established performance indicators concerning infection control. Hospitals plan and implement strategies to minimise infections, with the effectiveness of such strategies reflected in reported indicators.

The *Infection control guidelines for the prevention of transmission of infectious diseases in the health care setting* (ICG 2004) developed by the Australian Government, underpin most infection control guidelines operating in the health sector.

These have been developed by a group of public health experts, having considered the available scientific evidence and best practice research in Australia and internationally. The Communicable Diseases Network Australia and the Australian Health Minister's Advisory Council endorse the guidelines.

As NEPT providers act as a conduit between health services, it seems reasonable to expect them to adhere to the same infection control standards as other health care providers. It is considered appropriate that the NEPT industry use the ICG guidelines in developing infection control management plans (ICMPs).

Part 9 - Provision, inspection and maintenance of vehicles and equipment

In 1999, the government commissioned a review of NEPT services from Graham Fitton & Associates to address standards and quality assurance. This review identified general vehicle standards that, were broadly accepted by the industry at the time. The regulations reflects these standards as minimum requirements for vehicles.

Mobility aids

The consultation, indicated an emerging trend for health facilities to send patients' walking devices with taxis or by alternate transport and not with the patients. Health services and NEPT providers reported that this resulted in many instances of walking devices being delivered to patients' homes long after the arrival of the patients, although quantification of the issue has not been possible as neither providers nor purchasers keep records of such occurrences.

Without access to their mobility aid, patients have been unable to move around safely. Another dimension to the issue is that NEPT vehicles have been restricted with respect to the interior space available to safely restrain and transport a patient's walking device. The regulations aim to address both these factors by requiring NEPT providers to transport mobility devices, while limiting the size of the mobility device that can be safely transported. The size was determined based on the dimensions of most commonly used folding wheelchairs and the potential available space within NEPT vehicles.

Defibrillators

Defibrillators are electrical devices used in cases of cardiac arrest. The defibrillators currently carried in NEPT vehicles are in most instances manual units that require operators to make judgements as to the appropriate use of the unit. Defibrillators are rarely used in the NEPT sector – with a given NEPT vehicle likely to use its defibrillator perhaps once per year, if at all. Given this infrequency of use, it is not considered likely that annual training involving a 'mock' cardiac arrest is likely to allow staff to develop and maintain the expertise required to use a manual defibrillator safely.

Additionally, the Australian Resuscitation Council, in its policy on early defibrillation, clearly states that only fully trained paramedics should use manual defibrillators and that all others should use automated defibrillation devices. The Ambulance Attendant qualification that will form the minimum qualification for staff in NEPT medium acuity vehicles does not equate to that of paramedic in Victoria. Therefore, it is considered that NEPT staff will in most cases, be inadequately qualified to use manual defibrillators safely.

The industry is in full agreement that NEPT vehicles must carry defibrillator units when undertaking medium and high acuity patient transports, despite the reported use of the defibrillator function being as low as zero to once a year. Due to the very low utilization rates, and the subsequent difficulty in maintaining proficiency in use, purchasers of NEPT services and the department consider automated defibrillator units as more suitable for use by transport providers. These units are able to analyse the need to administer a shock and direct the operator to do so when appropriate. Although fully automated defibrillator devices are relatively inexpensive, the patient transport providers considered these units inadequate for their need, as the industry consider it necessary for these units to incorporate a cardiac monitor. It is for this reason that the Shock Advisory External Defibrillator (SAED) unit has been selected as the minimum standard requirement.

Part 10 - General

The industry consists of 11 private NEPT organisations and the ambulance services and undertakes approximately 350,000 patient transports annually. Given the large number of transports undertaken by relatively few organisations, there is a risk to service provision should one of the organisations find itself in difficulty due to litigation. In many instances the purchasers of NEPT services contractually require both public liability and professional indemnity insurance

Special Notes

- The pain relief protocol is applicable for patients during NEPT where the patient has been medically assessed and the cause of the pain is obvious (ie fracture of the neck of femur).
- **Patients with back pain for < 6 hours or where the age > 55 years who present with back pain must be referred for emergency transport unless a medical practitioner has ruled out a life-threatening cause.**
- For patients at public events with suspected fracture and persistent pain, **methoxyflurane** may be administered whilst awaiting the arrival of the emergency ambulance or whilst transporting the patient as directed by a medical practitioner or an emergency ambulance service
- **Methoxyflurane** must not be administered for headache or abdominal pain.
- The **MAXIMUM** dose of **methoxyflurane** for any one patient is 6 ml per 24 hour period. Under no circumstances is this to be exceeded.

Handover / notification

When providing pre-arrival information, or handing over a patient to another health care professional, patient information may be provided in a structured way using the MIST format

Introductory Information, including patient's name age and gender

Mechanism of Injury / Main Presenting Problem

Illness or Injury

Signs and Symptoms, including vital signs survey

Treatment provided and response to treatment

Any other relevant information, i.e. past history, allergies, medication etc

NEPT Pharmacology

Glyceryl Trinitrate

Presentation

0.6 mg tablets (anginine)

50mg in 10mL, ampoule (IV use)

Indications for Use

Cardiac Chest Pain / Discomfort

Contraindications

Known hypersensitivity

Blood Pressure < 110 mmHg systolic

Sildenafil Citrate, , Vardenafil (or similar) taken in the past 24 hours or Tadalafil , Lavitra or similar in the preceeding 4 days

Heart rate > 150 per minute

Precautions

No previous administration of Anginine

Elderly patients

Administration (Mode)

Sublingual or

IVI: Continuous infusion

Dose

0.6 mg (1 tablet) sublingual if previous administration

Extended protocol (Div 1 RN, ATA, AO) 0.3 mg (1 / 2 tablet) sublingual if no previous administration

Side effects

Hypotension

Tachycardia

Headache

Bradycardia

Skin flushing

Special Notes

Anginine is susceptible to heat and moisture and tablets must be stored tightly sealed in their original container and tablets discarded 1 month after the container is opened.

Do not administer a patient's own medication as it may not have been stored in optimal conditions.

Aspirin

Presentation

300 mg Chewable Tablet

Indications for Use

Cardiac Chest Pain / Discomfort

Contraindications

Hypersensitivity to aspirin / salicylates

Actively bleeding peptic ulcers

Bleeding disorders

Suspected aortic aneurysm

Precautions

Nil of significance for the above indication

Dose

300 mg tablet

Side effects

Heartburn / nausea / gastrointestinal bleeding

Increased bleeding time

Hypersensitivity reactions

Special Notes

Aspirin is not be administered by ATAs for any condition other than acute chest pain / discomfort of a cardiac nature (i.e. not for headache)

Glucagon

Presentation

1 mg in 1 ml Hypokit or

1 unit in 1 ml

Indications for Use

Hypoglycaemia with RBG < 4 mmol and altered conscious state

Contraindications

Nil of significance for the above indication

Dose

8 years or greater 1 mg IM

< 8 years of age – 0.5 mg (0.5 ml) IMI

Precautions

Nil of significance for the above indication

Side effects

Nausea and vomiting

Special Notes

Not all patients will respond to Glucagon and it is important to ensure early contact of the emergency communication centre in all cases of hypoglycaemia

Glucose Paste

Presentation

15 g tube

Indications for Use

Diabetic hypoglycaemia in the conscious patient

Contraindications

Nil of significance for the above indication

Precautions

Nil of significance for the above indication

Dose

15 g orally

Side effects

Nausea and vomiting

Special Notes

Not all patients will respond to Glucose paste and it is important to ensure early contact with the emergency ambulance communications centre in all cases of hypoglycaemia

Methoxyflurane

Presentation

3 ml glass bottle with plastic seal

Indications for Use

Pre-hospital pain relief

Contraindications

Pre-existing kidney disease

Patients taking tetracycline antibiotics

Exceeding total dose of 6 ml in any 24 hour period

Precautions

Pregnancy

Penthrox ® inhaler must be held by patient so that if unconsciousness occurs it will fall from patient's face

Patient must be supervised at all times during Methoxyflurane administration

Dose

3 ml via Penthrox ® inhaler. This will provide approximately 25 minutes of pain relief and may be followed by one further dose once the original dose has expired, if required.

Side effects

Drowsiness

Exceeding maximum total dose of 6 ml in 24 hour period may lead to kidney damage

Special Notes

Analgesia commences after 8-10 breaths and lasts for approximately 3-5 minutes once discontinued

Concurrent administration of Oxygen 3-8 LPM through the inhaler during use is recommended where appropriate

Oxygen

Presentation

High pressure black cylinder with white shoulder

Indications for Use

Treatment of hypoxia

To increase oxygenation in patients with acute injury or illness

Contraindications

Nil of significance for the above indications

Precautions

Beware of fire or explosive hazards

Patients with chronic obstructive pulmonary disease often require limitation of oxygen therapy. The amount of oxygen in these patients should be as prescribed by a medical practitioner

Dose

Limited supplementation (24-28%): 2 L/min by nasal prongs,

Moderate concentration (40%) via face mask at 8 LPM

High concentration (60% - 95%) via Bag Valve mask device with reservoir bag at 8 - 15 LPM

Side effects

Drying of the mucous membranes of the upper airway

Salbutamol

Presentation

5 mg or 2.5mgs in nebules

Indications for Use

Breathing difficulty with wheeze and/or history of asthma

Contraindications

Nil of significance for the above indication

Precautions

Continue to administer oxygen 8 LPM between doses if required for breathing difficulty (unless known chronic obstructive pulmonary disease)

Dose

10 mg via nebuliser mask with oxygen,

Continue treatment with 5 mg every 5 minutes until patient states breathing normal or handover to hospital / paramedic

Side effects

Tachycardia

Muscle tremor

Special Notes

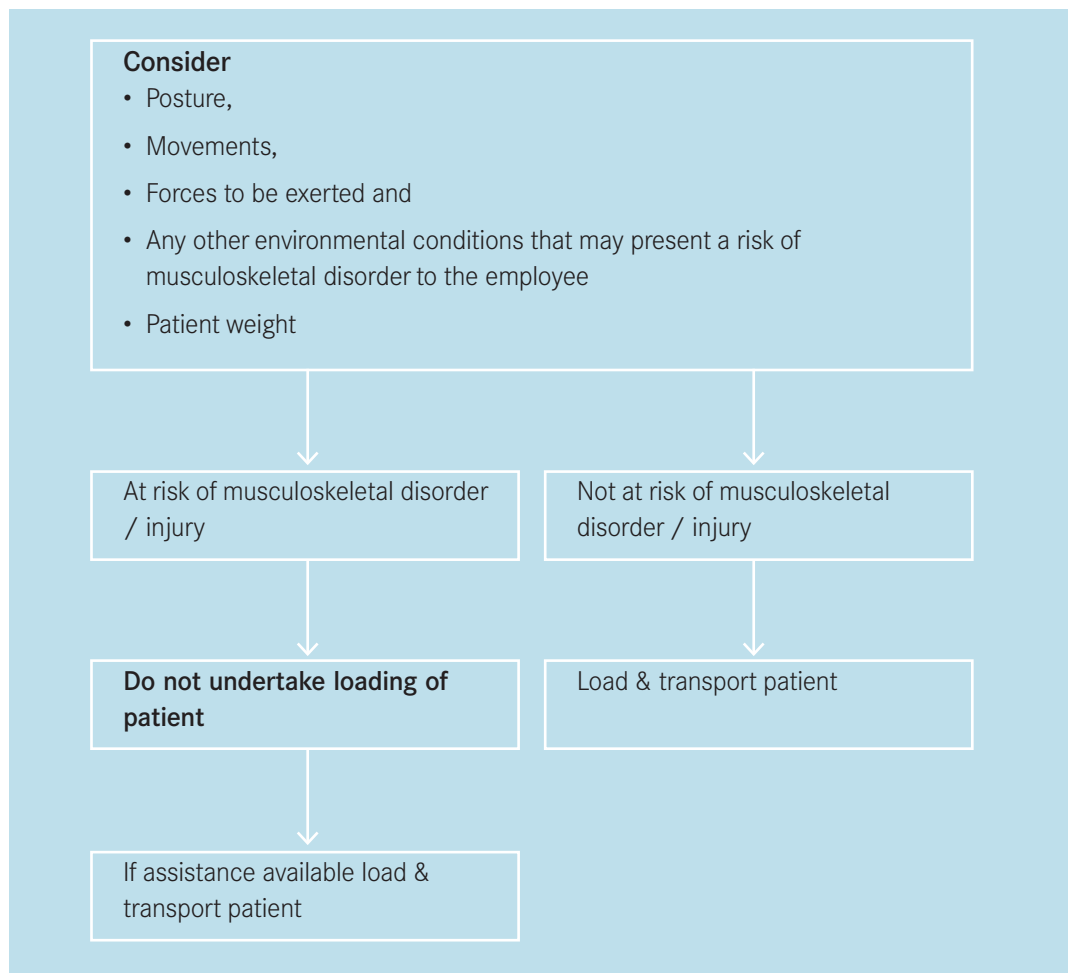
Unused nebules remaining in the pack at the completion of a case should be discarded.

Nebules should be stored in an environment < 30°C

Reference material

Risk assessment for loading a patient into a vehicle







Prior to loading a patient into a vehicle utilising a single officer the following procedure must be followed



Common abbreviations

Abbreviation	Meaning
b.d.	twice daily
t.d.s.	three times daily
q.i.d.	Four times daily
p.r.n.	Whenever necessary
a.c.	Before food
p.c.	Immediately after food
stat.	Immediate, once only dose
daily	Once daily
nocte	Given on settling (at night)
6/24	6 hourly
PEARL	Pupils equal and reacting light
Hx	History
C/O	Complaining of
Ca	Cancer
O/A	On arrival
PHx	Past history
I.M.	Intramuscularly
I.V.	Intravenously
S.L.	Sublingual
C/C	Chief complaint
P.R.	Per rectal
P.V.	Per vagina
'O'	Orally
Pt	Patient
O/E	On examination
Rx.	Treatment
B.P.	Blood pressure
B.S.L.	Blood sugar level
E.C.G.	Electrocardiogram
TOE	Trans-esophageal echocardiogram
I.V.T.	Intravenous therapy
N.A.D.	No abnormalities detected
I.D.C.	In-dwelling catheter
PEG	Percutaneous Endoscopic Gastrostomies
Med ⁿ	Medication

Common abbreviations

	Trendelberg (legs up)
	Supine (face up)
	Sitting
	Semi-recumbent
	Prone (face down)
	Lateral (side)

MNEMONICS – common examples to assist the NEPT

Signs & symptoms of a fracture	<ul style="list-style-type: none"> Pain Irregularity Loss of movement or power Swelling Deformity Unnatural movement Crepitus Tenderness
Treatment of fracture	<ul style="list-style-type: none"> Fix Reassure Afford limb support Cover any wounds Try for natural position Use appropriate splint React to haemorrhage Every occasion suspect fracture Shock – Treat & manage
Pain assessment	<ul style="list-style-type: none"> Description Onset Location Other symptoms Relief
Situation Report	<ul style="list-style-type: none"> Sex Age Description Injuries Estimated time of arrival (ETA)
History	<ul style="list-style-type: none"> Allergies Medications (current) Past Medical History Last Meal Event that prompted the call for an ambulance
Respiratory Status Assessment	<ul style="list-style-type: none"> Position Appearance Speech Sounds Respiratory Rate Respiratory Rhythm Effort (breathing) Pulse rate Skin Conscious state
Pre-Arrival Notification	<ul style="list-style-type: none"> Mechanism of Injury / main presenting problem Illness or Injury Signs & Symptoms, including vital signs survey Treatment provided and response to treatment

Paediatric reference material

The paediatric patient

Definitions

Newborn	Just Born
Infant	Less than 1 year of age
Small Child	1- 8 years of age
Large Child	9 - 14 years

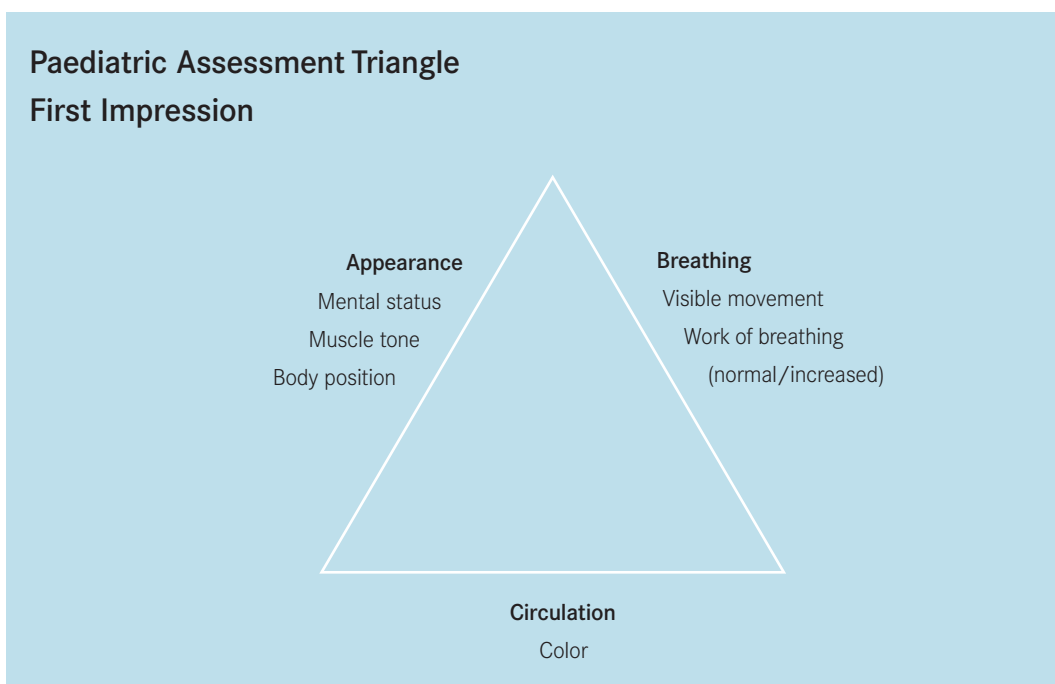
Respiratory assessment (paediatric)

Signs of Respiratory Distress in Children	
tachypnoea	use of accessory muscles
grunting	pallor
wheezing	abdominal protrusion
chest wall retraction	Diminished air entry
Irritability	cyanosis (late sign)

Signs of Hypoxia in Children	
Infants	Children
Lethargy	Restlessness
Bradycardia	Tachypnoea
Hypotension	Tachycardia
Apnoea	Cyanosis
Pallor	Bradycardia (late sign)

Initial Paediatric Assessment

When approaching a child it is important to form a rapid first impression of the patient's appearance, breathing, and circulation as illustrated in the Paediatric Assessment Triangle below. Visually evaluate mental status, muscle tone and body position, chest movement, work of breathing, and skin colour, looking for obvious injuries at the same time.



If the child appears well with no signs of serious trauma, approach at a moderate pace, maintaining a calm demeanour and explaining your actions to the parents and the child.

If a well-appearing patient has experienced a high-risk mechanism of injury, consider the patient potentially unstable due to the risk of serious internal injuries.

For children with a poor appearance and evidence of significant injury, activate an emergency response and proceed immediately with lifesaving interventions if indicated, including:

- Administration of oxygen
- Commencement of CPR.

Perfusion Assessment (Paediatric)

Adequate Perfusion

Age	Pulse	BP mmHg	Skin	Conscious State
Newborn	120 – 160	N/A	Pink, warm and dry	Conscious, alert active
Infant	100 – 160	> 70	Pink warm and dry	Conscious, alert active
Small child	80 – 120	> 80	Pink warm and dry	Conscious, alert active
Large child	80 – 100	> 90	Pink warm and dry	Conscious, alert active

Inadequate Perfusion

Age	Pulse	BP mmHg	Skin	Conscious State
Newborn	< 100 or > 170	N/A	Cool, pale clammy, peripheral cyanosis	Altered Conscious State / restless
Infant	< 90 or > 170	< 60	Cool, pale clammy, peripheral cyanosis	Altered Conscious State / restless
Small child	< 75 or > 130	< 70	Cool, pale clammy, peripheral cyanosis	Altered Conscious State / restless
Large child	< 65 or > 100	< 80	Cool, pale clammy, peripheral cyanosis	Altered Conscious State / restless

No Perfusion

Age	Pulse	BP mmHg	Skin	Conscious State
Newborn	Absent	Not recordable	Cool, pale	Unconscious
Infant	Absent	Not recordable	Cool, pale	Unconscious
Small child	Absent	Not recordable	Cool, pale	Unconscious
Large child	Absent	Not recordable	Cool, pale	Unconscious

Pattern of Illness

Medical Symptoms / Syndromes

- Acute Shortness of breath / breathing difficulty
- Acute Altered consciousness
- Acute abdominal pain
- Undiagnosed severe pain
- Acute sepsis / meningococcal rash

Conscious State Assessment (Paediatric)

Assess Conscious State using **AVPU**

- **Alert**
- Responds to **Voice**
- Responds to **Pain**
- **Unresponsive**

Extended Protocol

Assess Conscious State using Glasgow Coma Scale

Child 4 years or less		Child over 4 years	
Eye Opening			
Spontaneously	4	Spontaneously	4
React to speech	3	To voice	3
Reacts to pain	2	To Pain	2
No response	1	No response	1
Best Verbal Response			
Appropriate words or social smile, fixes, follows	5	Orientated	5
Cries but consolable	4	Confused	4
Persistently irritable	3	Inappropriate words	3
Restless and agitated	2	Incomprehensible sounds	2
No response	1	No response	1
Best Motor Response			
Spontaneous	6	Obeys command	6
Localises to pain	5	Localises to pain	5
Withdraws from pain	4	Withdraws from pain	4
Flexion response	3	Flexion to pain	3
Extension response	2	Extension to pain	2
No response	1	No response	1
Total		Total	

APGAR Scoring System

The APGAR score should be conducted 1 minute after delivery and repeated at 5 minutes after delivery. A score of:

- 8 – 10 is considered normal
- 4 – 7 has moderate depression and may need resp support
- 0 – 3 indicates a newborn requiring resuscitation

	0 points	1 point	2 points
Appearance	Blue, Pale	Body pink Extremities blue	Totally pink
Pulse	Absent	< 100	> 100
Grimace	None	Grimaces	Cries
Activity	Limp	Flexion of Extremities	Active motion
Respiratory effort	Absent	Slow and weak	Good strong cry

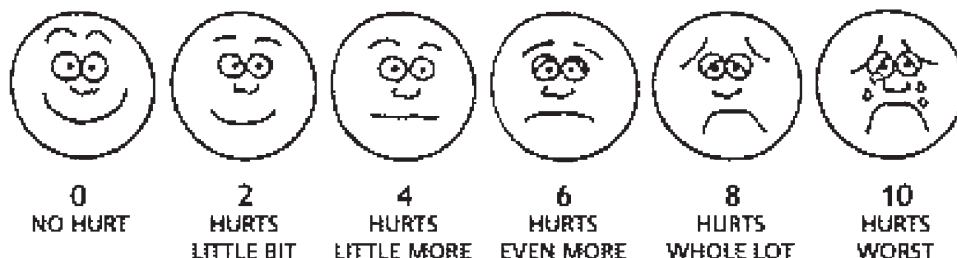
Paediatric Pain Assessment

Paediatric pain assessment should be appropriate to the developmental level of the child. Pain can be communicated by words, expressions and behaviour such as crying, guarding a body part or grimacing. The **QUEST** principles of pain (Baker and Wong, 1987) and the following pain rating scales may be helpful in assessing paediatric pain.

- **Q**uestion the Child
- **U**se Pain rating scales
- **E**valuate behaviour and physiological changes
- **S**ecure parent's involvement
- **T**ake cause of pain into account
- **T**ake action and evaluate results

Wong – Baker FACES Pain Rating Scale

This scale can be used with young children aged three years and older and may also be useful for adults and those from a non-English speaking background. Point to each face using the words to describe the pain intensity. Ask the child to choose face that best describes own pain and record the appropriate number.



From Wong D.L., Hockenberry-Eaton M., Wilson D., Winkelstein M.L., Schwartz P.: Wong's Essentials of Pediatric Nursing, ed. 6, St. Louis, 2001, p. 1301. Copyrighted by Mosby, Inc. Reprinted by permission.

Verbal Numerical Rating Scale

This scale asks the patient to rate their pain from “no pain” (0) to “worst pain possible” (10) and is suitable for use in children over six years of age who have an understanding of the concepts of rank and order. Avoid using numbers on this scale to prevent the patient receiving cues. Some patients are unable to use this scale with only verbal instructions but may be able to look at a number scale and point to the number that describes the intensity of their pain.

Basic Life Support (Paediatric)

Cardio-respiratory arrest in infants and children is most commonly caused by hypoxaemia, hypotension or both and should be suspected when the child or infant loses consciousness, appears pale or cyanosed or is apnoeic or pulseless. Examples of conditions causing cardiac arrest in infants and children are trauma, drowning, septicaemia, sudden infant death syndrome, asthma, upper airway obstruction and congenital abnormalities of the heart and lung.

Infants and children most commonly arrest into severe bradycardia or asystole and this influences the order of resuscitative actions. Ventricular fibrillation may occur, however, with congenital heart conditions or secondary to poisoning to cardioactive drugs and is often encountered during the course of resuscitation. Respiratory arrest may occur alone, but if treated promptly may not progress to cardio-respiratory arrest.

The basic principles of paediatric life support are similar to those of adults.

Airway

To assess an airway in a newborn, infant or child, the positioning and techniques are similar to those for an adult with the exception that care should be taken to avoid over extension of the neck and head. Noisy breathing, stridor or wheeze, and/or neck and chest soft tissue retraction on inspiration are signs of significant partial airway obstruction.

To position the head and neck to maintain an open airway:

Newborn and Infants	head and neck should be placed in the neutral position, avoiding additional neck flexion and head extension.
Children	use neck flexion and head extension with caution in the younger child. If necessary use chin lift or jaw thrust, to clear the airway.

Breathing

If spontaneous ventilation is not present, an appropriate size oropharyngeal airway should be inserted and assisted ventilation should be commenced immediately using supplemental oxygen. Effective airway control and adequate ventilation with oxygen supplementation is the keystone of paediatric resuscitation.

Circulation

Commence external cardiac compression (ECC) if a pulse (carotid, brachial or femoral) is not palpable, or is less than 60 beats per minute for all age groups.

External Cardiac Compression				
	Older Child	Younger Child	Infant	Newborn
Age Range	9-14 yrs	1-8 yrs	1 to 12 months	<1 month
Compress with	2 hands	1 hand	2 fingers	2 fingers
Depth of compression	4-5 cm	1/3 depth of chest	1/3 depth of chest	1/3 depth of chest
Rate of compression	100 /min	100 /min	100 /min	90 /min
Compression point	Middle of the lower half of the sternum			
Initial breaths	5 breaths (achieve 2 effective breaths)			
Compressions: breaths	15:2	5:1	5:1	3:1
Breathe	Until chest rises (effective breath)			

Notes

Notes

