



**HEALTH PROFESSIONS COUNCIL OF SOUTH
AFRICA**

**PROFESSIONAL BOARD FOR EMERGENCY
CARE**

EMERGENCY CARE TECHNICIAN

SCOPE OF PRACTICE

2009

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INTRODUCTION

These ECT protocols have been carefully designed through a process of consultation with emergency care and medical specialists including input from Higher Education Institutions, Colleges, the National Department of Health and the Professional Board for Emergency Care. These protocols are aligned to the 2008 American Heart Association Guidelines. As research is conducted and new evidence becomes available the protocols may be amended by removing, including and / or adjusting the procedures and medications. At all times members of the emergency care profession should remain aware of the important fact that ones professional status and standing within a profession should not be purely defined by a scope of practice but rather by ones level of education and training. The patient's right to appropriate evidence based pre-hospital medical intervention thus becomes central to any decisions made relating to scope of practice and / or protocol.

Emergency Care Technicians (ECT) are set to play a vital role in the provision of pre-hospital emergency care within South Africa. These protocols serve to guide actions in dealing with commonly encountered medical and trauma related emergencies. During the course of their duties the ECT will no doubt encounter a wide variety of patients and clinical conditions. For this reason it is neither possible nor feasible to design a protocol for every possible scenario. Providing pre-hospital emergency care requires a team approach, as such the ECT is encouraged to request the assistance and / or advice of a registered emergency care practitioner (ECP) or a medical officer (MO) should they feel it necessary to deviate from these protocols.

As a registered ECT there are certain medications and procedures that you will be able to routinely and independently administer and perform as indicated in the following protocols. Additional medications or procedures which are infrequently performed or which are invasive and / or potentially harmful to the patient require you to consult with an ECP or MO before going ahead with the relevant procedure. This consultation between ECTs and ECPs or MOs forms an important and necessary step in addressing issues of clinical governance, peer review and general professional development within the Emergency Care Profession as a whole. As a registered professional you should

have a clear understanding of your own limitations, consult widely and regularly on all issues relating to the management of patients. In line with this there are certain clinical conditions and / or patients who will require medical treatment by a higher qualified person such as an emergency care practitioner or medical officer. In such instances you are required to, without delay, request assistance from such individuals or should they be unavailable, transport immediately to the nearest appropriate medical facility.

Explanatory notes

These ECT protocols are to be read and interpreted taking the following into account:

- The protocols provide a skeletal framework guiding treatment; the focus is primarily on the administration of medications. It is therefore assumed that you have correctly performed the necessary patient assessments and have in fact properly identified the problem and or where applicable have arrived at an appropriate and correct diagnosis.
- Unless otherwise stated all references to medications that are administered via the intravenous route may also be administered via the intraosseous route.
- Where a number of potential routes for administration and or ways of presenting and preparing medications exists, the most pragmatic method for use in the pre-hospital setting has been suggested.
- Information relating to the individual medications such as the class, scheduling, pharmacological action, adverse effects, indications and contra-indications are not included in these protocols. The onus is on the registered practitioner to ensure that they have an extensive detailed knowledge and understanding of each and every medication which they are entitled to administer.
- As Emergency Care Technicians are not authorized prescribers, you will be required to obtain these medications from an Emergency Care Practitioner or Medical Officer.

CAPABILITIES

Sections that are greyed out require consultation with an Emergency Care Practitioner (ECP) or medical officer (MO) prior to performance of the associated procedure. However in the unlikely event that such consultation is impossible then you may proceed using sound clinical judgement and in accordance with these guidelines thereafter obtaining retrospective consultation.

Airway Management	
1.	Finger sweep
2.	Head-tilt-chin lift
3.	Jaw-thrust
4.	Cricoid pressure
5.	Suction – oropharynx
6.	Airway obstruction / choking (basic life support level)
7.	Oropharyngeal airway insertion
8.	Nasopharyngeal airway insertion
9.	Supraglottic airway devices (e.g. LMA / DLA) in pulseless patients
10.	Supraglottic airway devices (e.g. LMA / DLA) in patients without gag reflex and pulse present
11.	Needle cricothyroidotomy
12.	Nasogastric / Orogastric tube insertion in a conscious patient
Oxygenation & Ventilation	
13.	Oxygen therapy
14.	Nebulization
15.	Use of pulse oximetry
16.	Needle thoracentesis
17.	Bag-valve-mask ventilation
Circulatory Management	
18.	Peripheral intravenous cannulation > 1 years old
19.	External jugular vein cannulation
20.	Intraosseous cannulation
21.	Umbilical vein cannulation
22.	Fluid administration – crystalloids & colloids
23.	Intravenous & intraosseous drug administration
24.	Intramuscular drug administration
25.	Use of non-invasive blood pressure monitors
26.	Use of tourniquet

27.	Use of pneumatic anti-shock garment
28.	Automated & Manual Electrical Defibrillation
29.	Basic 3-lead ECG monitoring and rhythm identification (normal sinus rhythm, sinus bradycardia, sinus tachycardia, ventricular tachycardia, ventricular fibrillation, pulseless electrical activity and asystole)
Obstetric Management	
30.	Normal vaginal delivery
31.	Breech delivery
32.	Prolapsed cord management (excludes tocolysis)
33.	Fundal massage
General	
34.	CPR (adult, child, infant & neonate)
35.	On-scene discharge
36.	Cervical spine clearance
37.	Application of a cervical collar
38.	Application of head blocks
39.	Application of spider harness
40.	Application of extrication devices
41.	Application of splints including the traction splint
42.	Application of vacuum mattress
43.	Use of stretchers
44.	Urinary catheterization
45.	General patient transfers excluding intensive care transfers & neonatal transfers
46.	Basic wound care
47.	Declaration of death where no treatment was initiated as the patient was obviously dead on arrival (decapitation, mortal disfigurement, rigor mortis, putrefaction, post mortem lividity)
48.	Declaration of death where treatment has been initiated

Medications (refer to individual protocols relating to required consultation)	
1.	Acetyl salicylic acid
2.	Adrenaline
3.	Amiodarone hydrochloride
4.	Atropine sulphate
5.	βeta 2 adrenergic stimulants
6.	Corticosteroids
7.	Dextrose 50%
8.	Diazepam
9.	Flumazenil
10.	Glucagon
11.	Glyceryl trinitrate
12.	Ipratropium Bromide
13.	Magnesium sulphate
14.	Medical oxygen
15.	Morphine sulphate

16.	Naloxone hydrochloride
17.	Nitrous oxide
18.	Oral glucose powder / gel
19.	Promethazine
20.	Thiamine

PROTOCOLS

Anaphylaxis

Anaphylaxis may present as either:

- Upper airway obstruction (laryngeal oedema)
- Lower airway obstruction (bronchospasm)
- Hypotensive crisis
- Minor skin reactions / eruptions (urticaria / hives)
- Or a combination of some or all of these

A. For suspected upper airway obstruction (laryngeal oedema):

1. Calm and reassure the patient
2. Administer oxygen
3. Begin transport to hospital
4. ***If far from hospital (> 15 minutes), consider calling an ALS / ECP / MO to assist you as advanced airway management may become necessary***
5. The following procedures may be performed en route to the receiving facility:
 - a. Administration of IM Adrenaline:
 - **Adults** – 0.3 to 0.5mg IM (ideally anterolateral thigh) of a 1:1000 solution which may be repeated after 10 minutes if no improvement is noted
 - **Children** – 0.01mg/kg IM (ideally anterolateral thigh) of a 1:1000 solution which may be repeated after 10 minutes if no improvement is noted
 - b. Nebulization of Adrenaline:
 - **Adults** – 4mg Adrenaline + 2ml NaCl
 - **Children** – 2mg Adrenaline + 3ml NaCl

- c. Establish intravenous access:
 - Crystalloid (e.g. Ringers Lactate) with a large bore needle and high flow administration set if possible
 - Do not infuse large volumes of fluid unless hypotension is present
- d. Administration of a Corticosteroid:
 - Hydrocortisone:
 - 5mg/kg IVI slowly for both adult and paediatric patientsOR
 - Methylprednisolone:
 - 1mg/kg IVI slowly for both adult and paediatric patients
- e. Administer Promethazine:
 - **Adults** – 25mg undiluted deep IMI or slowly IVI after 10-fold dilution with water for injection
 - **Children** – 0.5mg/kg undiluted deep IMI or slowly IVI after 10-fold dilution with water for injection
 - Not recommended for children < 2 years of age

B. For suspected lower airway obstruction (bronchospasm):

1. Calm and reassure the patient
2. Administer oxygen
3. Begin transport to hospital
4. ***If far from hospital (> 15 minutes), consider calling an ALS / ECP / MO to assist you as advanced airway management may become necessary***
5. The following procedures may be performed en route to the receiving facility:
 - a. Administration of IM Adrenaline:
 - **Adults** – 0.3 to 0.5mg IM (ideally anterolateral thigh) of a 1:1000 solution which may be repeated after 10 minutes if no improvement is noted
 - **Children** – 0.01mg/kg IM (ideally anterolateral thigh) of a 1:1000 solution which may be repeated after 10 minutes if no improvement is noted

- b. Nebulization of a UDV (β 2 stimulant + Ipratropium Bromide):
 - **Adults** – UDV +N/S up to 5ml
 - **Children** – Only use half of the UDV with the remainder made up of N/S to 5ml
- c. Establish intravenous access:
 - Crystalloid (e.g. Ringers Lactate) with a large bore needle and high flow administration set if possible
 - Do not infuse large volumes of fluid unless hypotension is present
- d. Administration of a Corticosteroid:
 - Hydrocortisone:
 - 5mg/kg IVI slowly for both adult and paediatric patients
 - OR
 - Methylprednisolone:
 - 1mg/kg IVI slowly for both adult and paediatric patients
- e. Administer Promethazine:
 - **Adults** – 25mg undiluted deep IMI or slowly IVI after 10-fold dilution with water for injection
 - **Children** – 0.5mg/kg undiluted deep IMI or slowly IVI after 10-fold dilution with water for injection
 - Not recommended for children < 2 years of age

C. For hypotensive crisis:

1. Calm and reassure the patient
2. Administer oxygen
3. Begin transport to hospital
4. ***If far from hospital (> 15 minutes), consider calling an ALS / ECP / MO to assist you as further management may exceed your scope of practice***

5. The following procedures may be performed en route to the receiving facility:
- a. Administration of IM Adrenaline:
 - **Adults** – 0.3 to 0.5mg IM (ideally anterolateral thigh) of a 1:1000 solution which may be repeated after 10 minutes if no improvement is noted
 - **Children** – 0.01mg/kg IM (ideally anterolateral thigh) of a 1:1000 solution which may be repeated after 10 minutes if no improvement is noted
 - b. Establish intravenous access:
 - Crystalloid (e.g. Ringers Lactate) with a large bore needle and high flow administration set if possible
 - **Adults** – 500ml boluses, rechecking the blood pressure after each bolus until the patient's blood pressure returns to normal.
 - **Children** – 20ml/kg boluses, rechecking the blood pressure after each bolus until the patient's blood pressure returns to normal.
 - Be aware that these patient may require large volumes of fluid
 - c. Administration of a Corticosteroid:
 - Hydrocortisone:
 - 5mg/kg IVI slowly for both adult and paediatric patients
 - OR
 - Methylprednisolone:
 - 1mg/kg IVI slowly for both adult and paediatric patients
 - d. Administer Promethazine:
 - **Adults** – 25mg undiluted deep IMI or slowly IVI after 10-fold dilution with water for injection
 - **Children** – 0.5mg/kg undiluted deep IMI or slowly IVI after 10-fold dilution with water for injection
 - Not recommended for children < 2 years of age

If the hospital is far away and there is no practitioner available to attend to the patient and the patient's condition is not improving despite the above management, contact an ECP or MO for permission to administer Glucagon if unresponsive to adrenaline and especially if on beta blockers:

- **Adults** – 1-2mg every 5 minutes IMI or slow IV
- **Children** – 20µg/kg IM or slow IV (max 1mg)

Bronchial Asthma

1. Calm & reassure the patient
2. Place the patient onto oxygen as soon as possible; preferably humidified
3. Nebulize the patient with the following medications:
 - a. β 2 stimulant & Ipratropium Bromide
 - **Adults & Children > 5 years** – Fenoterol* UDV (1.25mg/2ml) + Ipratropium Bromide (0.5mg/2ml) + 1ml N/S
 - **Children (1 – 5 years)** – Fenoterol* UDV (0.5mg/2ml) + Ipratropium Bromide (0.25mg/2ml) + 1ml N/S
 - **Children (1month to 1 year)** – Fenoterol* UDV (0.5mg/2ml) + Ipratropium Bromide (0.125mg/1ml) + 2ml N/S
 - **Neonate** – 5ml N/S (Fenoterol* and Ipratropium Bromide are not to be used in neonates)
 - * Should Fenoterol not be available, then any other appropriate β 2 stimulant may be used
4. Assess the severity of the asthma attack.
5. Continue with treatment according to the severity.
6. **Mild:**
 - a. Establishment of an IV line is not mandatory and is up to the practitioner's discretion
 - b. Reassesses for a response to treatment (as above)
 - c. Should the patient not improve OR deteriorate continue nebulizing and consider treating for a moderate OR severe attack

Moderate (after initial nebulization):

- a. IV line - select the appropriate fluid and administration set.
 - b. Corticosteroids
 - Hydrocortisone:
 - 5mg/kg IVI slowly for both adult and paediatric patients
- OR

- Methylprednisolone:
 - 1mg/kg IVI slowly for both adult and paediatric patients
- c. Magnesium sulphate
 - **Adults** – 1-2g (2 to 4ml of a 50% solution). Dilute 1g/2ml vial to 10ml or 2g/4ml to 20ml with sterile water to make a 10% solution. Give slowly, not exceeding 1.5ml/min, with continuous careful monitoring.
 - **Children** – 25 to 50mg/kg (maximum dose of 2g) over 10 to 20 minutes.
 - Complete your initial dose at the predetermined rate even if the patient improves
- d. Reassesses for a response to treatment. Should the patient not improve OR deteriorate consider treating for severe.

Severe (after or during initial nebulization):

- a. ***Call a ALS / ECP / MO to assist you as further management may exceed your scope of practice***
- b. IV line - select the appropriate fluid and administration set.
- c. Corticosteroids
 - Hydrocortisone:
 - 5mg/kg IVI slowly for both adult and paediatric patients
 - OR
 - Methylprednisolone:
 - 1mg/kg IVI slowly for both adult and paediatric patients
- d. Magnesium sulphate
 - **Adults** – 1-2g (2 to 4ml of a 50% solution). Dilute 1g/2ml vial to 10ml or 2g/4ml to 20ml with sterile water to make a 10% solution. Give slowly, not exceeding 1.5ml/min, with continuous careful monitoring.
 - **Children** – 25 to 50mg/kg (maximum dose of 2g) over 10 to 20 minutes.
 - Complete your initial dose at the predetermined rate even if the patient improves

Cardiac Arrest – Adult & Child

1. Ensure scene is safe
2. Check for patient responsiveness
3. ***Call an ALS / ECP / MO to assist you as further management may exceed your scope of practice***
4. Open airway and assess for adequate breathing – if the patient is not breathing, administer 2 effective ventilations
5. Feel for a definite pulse for up to 10 seconds
6. If time from collapse is greater than 4 - 5 minutes without CPR, first complete 2 minutes of CPR before attempting to analyse the rhythm
7. Analyse the rhythm
8. **Asystole and Pulseless Electrical Activity:**
 - a. Continue with CPR
 - The emphasis is on minimally interrupted CPR, this means that the insertion of airway devices and intravenous access should not interrupt effective CPR.
 - b. Consider the insertion of a supraglottic airway device as it may assist with ventilations
 - c. Establish intravenous or intraosseous access with the appropriate fluid and administration set
 - d. Administer adrenaline:
 - **Adults** - 1mg IVI every 3 to 5 minutes while the patient remains in cardiac arrest
 - **Children** – 0.01mg/kg IVI every 3 to 5 minutes while the patient remains in cardiac arrest
 - e. Administer atropine sulphate:
 - **Adults** - 1mg IVI every 3 to 5 minutes to a maximum of 3mg while the patient remains in cardiac arrest
 - **Children** – not indicated

- f. Actively investigate the possible cause/s for these rhythms and manage appropriately

Pulseless Ventricular Tachycardia and Ventricular Fibrillation:

- a. Defibrillate once at the following Joules:
 - Biphasic: 120-360J (Child – 4J/kg)
 - Monophasic: 360J (Child – 4J/kg)
- b. Immediately continue with 2 minutes of CPR
- c. Consider the insertion of a supraglottic airway device as it may assist with ventilations
- d. Establish intravenous or intraosseous access with the appropriate fluid and administration set
- e. Administer adrenaline:
 - **Adults** – 1mg IVI every 3 to 5 minutes while the patient remains in cardiac arrest
 - **Children** – 0.01mg/kg IVI every 3 to 5 minutes while the patient remains in cardiac arrest
- f. Administer amiodarone hydrochloride if the ventricular fibrillation is refractory (does not respond to CPR, defibrillation and adrenaline):
 - **Adults** – 300mg IVI as a rapid bolus
 - **Children** – 5mg/kg IVI as a rapid bolus
 - If a practitioner is not available to assist you on scene, contact an ECP or MO for advice relating to further bolus dosages and/or infusions

Resuscitation of a Newly Born / Neonate

1. Ensure scene is safe
2. **Call a ALS / ECP / MO to assist you as further management may exceed your scope of practice**
3. If the newborn is full term gestation, has clear amniotic fluid, is breathing &/or crying and has good muscle tone:
 - Provide warmth
 - Clear airway if needed
 - Dry
 - Assess colour
4. If the answer to any of the above (3) is no then:
 - Provide warmth
 - Position the newborn appropriately
 - Clear the airway
 - Dry, stimulate and reposition
5. Evaluate respirations, heart rate and colour:
 - If breathing adequately, pink and HR>100bpm, then administer supportive care
 - If breathing but colour is poor and HR>100bpm, then administer supplemental oxygen and provide supportive care
 - If apneic, poor colour or HR<100bpm, then assist ventilations at a rate of 30-60/min
6. After 30 seconds, reassess breathing, skin colour and heart rate
 - If HR>60, then continue with ventilations and supportive care
 - If HR<60, then initiate chest compressions (3:1) at a rate of 120/min
7. After a further 30 seconds, reassess breathing, skin colour and heart rate
 - If HR remains at <60, then contact an ECP or MO for advice relating to further management

Seizures

1. Calm & reassure the patient
2. Protect the patient's head and prevent further injury
3. Turn the patient lateral
4. Administer oxygen
5. Attempt to gain intravenous / intraosseous access with the appropriate fluid and administration set
6. Terminate the seizure using an anti-convulsant medication:
 - Diazepam IVI (preferred route):
 - **Adults** – 5mg IVI slowly (when given intravenously in the undiluted form, the injection should be administered at a rate not exceeding 5 mg/minute), may be repeated once after 5 minutes if seizure persists
 - **Children** – 0.2mg/kg IVI slowly (when given intravenously in the undiluted form, the injection should be administered at a rate not exceeding 5 mg/minute), may be repeated once after 5 minutes if seizure persists
 - Diazepam Rectal (if IV access cannot be established):
 - **Adults** – 10mg rectally, may be repeated once after 5 minutes if seizure persists
 - **Children** – 0.5mg/kg rectally, may be repeated once after 5 minutes if seizure persists
7. Attempt to establish and correct manageable causes for the seizure such as:
 - Pyrexia
 - Hypoglycaemia
8. ***If the patient continues to convulse after two doses of anti-convulsant medications, contact an ECP or MO for advice relating to further management.***

9. In the case of seizures relating to eclampsia, contact an ECP or MO for advice relating to further management as the first line agent is magnesium sulphate and not diazepam
- Administration of magnesium sulphate:
 - **Bolus:**
 - 2-4g of a 10% solution given very slowly, with careful monitoring not exceeding 1.5ml/min
 - 10% solution is obtained by diluting the 1g/2ml vial to 10ml with sterile water or 2g/4ml to 20ml with sterile water
 - **Infusion:** 3g in 200ml N/S at a rate not exceeding 3ml/min

Acute Coronary Syndrome

1. Calm & reassure the patient
2. Administer oxygen
3. Place the patient in a position of comfort
4. Administer acetyl salicylic acid:
 - 150mg orally, crushed, chewed or dissolved in water (once off dosage)
5. Establish intravenous access with appropriate fluid and administration set
6. Administer glyceryl trinitrate:
 - 1 spray (0.4mg) sublingual, repeat after 5 minutes to a maximum of 3 doses if no improvement is noted and the BP is still adequate
 - Stop administration if the patient develops a headache or hypotension develops
7. ***Should the cardiac chest pain remain severe despite the administration of oxygen and at least 2 doses of nitrates, contact an ECP or MO for advice relating to further management.***
8. Administer morphine sulphate (with permission from ECP or MO):
 - Low dose morphine titrated to therapeutic effect

Acute Pulmonary Oedema

1. Calm & reassure the patient
2. Administer oxygen
3. Place the patient in a position of comfort (ideally seated)
4. Call an ALS / ECP / MO to advise you as to whether the following pharmacological management is indicated.
5. Administer glyceryl trinitrate:
 - 1 spray (0.4mg) sublingual, repeat after 5 minutes to a maximum of 3 doses if no improvement is noted and the BP is still adequate
 - Stop administration if the patient develops a headache or hypotension develops
6. If no improvement, consider the administration of morphine sulphate:
 - Dilute to a 1mg/ml solution and administer 1mg/30seconds slowly IVI titrating to the BP and LOC
7. ***If far from hospital (> 15 minutes), consider calling an ALS / ECP / MO to assist you as advanced airway and pharmacological management may become necessary***

Symptomatic Bradycardia

1. Calm & reassure the patient
2. Administer oxygen
3. ***Contact an ECP or MO as further management exceeds your scope of practice***
4. Attempt to establish and correct manageable causes for the bradycardia such as:
 - a. Hypoxia
 - b. Hypothermia

Pathological Tachycardia

1. Calm & reassure the patient
2. Administer oxygen
3. ***Contact an ECP or MO as further management exceeds your scope of practice***

Symptomatic Hypoglycaemia (HGT<3.5mmol/L)

1. Calm & reassure the patient
2. Administer oxygen if indicated
3. If the patient is conscious and cooperative:
 - a. Provide a source of oral glucose, e.g. glucose powder / gel
 - 25g of gel / powder mixed with water
4. If the patient has a decreased level of consciousness and cannot take medications orally:
 - a. If the patient is unconscious, ensure that the airway is protected and that breathing is adequate
 - b. Establish intravenous access with the appropriate fluid and administration set
 - c. Administer dextrose 50% slowly IVI:
 - **Adults** – 10g/20ml of a 50% solution. May be repeated after 5 minutes if the blood sugar level remains low.
 - **Children & neonates** – 1ml/kg of a 50% solution which is then further diluted to a 12.5% solution with sterile water prior to administration. May be repeated after 5 minutes if the blood sugar level remains low.
 - d. Consider thiamine hydrochloride:
 - Administer prior to administration of dextrose 50% if you suspect any of the following:
 - Alcoholism
 - Malnourishment
 - **Adults** – 100mg IVI slowly
 - **Children** – 50mg IVI slowly
 - e. If you are unable to establish intravenous access or you do not have IV dextrose available, administer glucagon:
 - **Adults & children >20kg** – 1mg IMI
 - **Children <20kg** – 0.5mg IMI

Analgesia

1. Calm & reassure the patient
2. Remember that pain relief does not take precedence over more urgent medical interventions, e.g. airway management and oxygenation; management of life-threatening bleeding
3. Offer the patient pain relief and indicate that a choice is available between nitrous oxide and morphine sulphate. Indicate that administration of morphine sulphate will require the establishment of an intravenous line.
4. The general principle behind pre-hospital pain management is to titrate the medications according to the patient's level of comfort using as little medication as possible to achieve a satisfactory effect
5. Nitrous oxide:
 - Administration process is to be explained to the patient. Ideally the patient will administer the gas to themselves, however in certain circumstances, e.g. bilateral radius-ulna fracture; the patient may need to be assisted with this process.
 - Stop administration if the patient's level of consciousness decreases
6. Morphine Sulphate:
 - ***Contact your an ECP or MO for permission to administer morphine sulphate for pain relief***

Poisoning / Overdose

1. Scene safety in the case of poisoning. Ensure that you utilize the appropriate PPE before attempting to assist patients.
2. Calm & reassure the patient
3. Attempt to establish the nature of the substance
4. **Poisoning:**
 - a. Remove the patient from the source of contamination (this may require removal of the patient's clothes and rinsing of the patient's skin)
 - b. Contact the Poison Control Centre and/or your medical officer for advice relating to further pre-hospital management
 - c. In the case of confirmed organophosphate poisoning, you may be instructed to administer atropine sulphate by the ECP or MO
 - d. Notify the receiving hospital to avoid unnecessary contamination of the casualty
5. **Overdose:**
 - a. Narcotic overdose with associated respiratory depression:
 - Administer naloxone hydrochloride:
 - The goal of administration is to reverse any respiratory depression and not to fully awaken the patient
 - **Adults** – 0.4mg slowly IVI / IMI, repeated after 5 minutes. If the patient does not improve after 2 doses, contact an ECP or MO for further advice.
 - **Children** – 0.1mg/kg slowly IVI / IMI, repeated after 5 minutes. If the patient does not improve after 2 doses, contact an ECP or MO for further advice.

b. Benzodiazepine overdose with associated respiratory depression:

- Administer flumazenil:

The goal of administration is to reverse any respiratory depression and not to fully awaken the patient

Adults – 0.2mg slowly IVI. Repeat after 1 minute with a dosage of 0.1mg. If the patient does not improve after 2 doses, contact an ECP or MO for further advice.

Children – Not indicated.

Declaration of Death

Death may be declared to have occurred by a registered Emergency Care Technician if they have not initiated any form of medical treatment or intervention due to the fact that:

The person is obviously dead due to / evidenced by:

1. Decapitation or mortal disfigurement
2. Rigor mortis
3. Putrefaction
4. Post mortem lividity

In cases where medical intervention has been initiated; the Emergency Care Technician may not terminate treatment without consulting a ECP or MO

In such cases and on the instruction of the ECP or MO, the following tests need to be conducted and documented on the Declaration of Death Certificate:

1. No evidence of cardiac electrical activity for 30 seconds or more in all 3 leads
2. No palpable central pulses
3. No audible heart sounds
4. Bilateral fixed dilated pupils present
5. No spontaneous breathing for the past 5 minutes
6. Absent oculo-cephalic reflex
7. Absent gag and corneal reflexes