

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Table of Contents		Last Revision Date: September 29, 2016
	Page: 1 of 5		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Table of Contents

Introduction

Adult Medical

Acute Abdomen
 Altered Level of Consciousness
 Anaphylaxis/Allergic Reaction
 Anxiety
 Asthma/COPD
 Cardiac Arrest BLS Only
 Cardiac Arrest (Non-traumatic)
 Asystole
 Bradycardia/Heart Blocks
 PEA- Pulseless Electrical Activity
 Ventricular Fibrillation/Pulseless Ventricular Tachycardia
 Cardiac Dysrhythmias
 Supraventricular Tachycardia
 Ventricular Ectopy
 Ventricular Tachycardia
 Cardiogenic Shock
 Chest Pain of Cardiac Origin
 Congestive Heart Failure
 CVA/TIA
 Heat Emergencies
 Hyperglycemia
 Hypoglycemia
 Hypertension
 Hypothermia
 Obstetrics
 Overdose/Oral Poisoning
 Poisonous Stings and Bites
 Renal Failure
 Seizures
 Sepsis
 Sick Cell Crisis

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Table of Contents		Last Revision Date: September 29, 2016
			Page: 2 of 5
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Adult Trauma

Abdominal Trauma
 Burns
 Thermal
 Chemical and Electrical
 Cardiac Arrest – Traumatic
 Chest Trauma
 Drowning/Near Drowning
 Eye Injuries
 Fractures/Dislocations
 Gunshot Wound
 Head Injury
 Inhalation of Hot Smoke and Gases
 SCUBA Related Emergencies
 Shock
 Hypovolemic
 Neurogenic

Pediatric Medical

Acute Abdomen
 Altered States of Consciousness
 Anaphylaxis/Allergic Reaction
 Asthma
 Bronchiolitis
 Cardiac Arrest (Non-traumatic)
 Asystole
 PEA - Pulseless Electrical Activity
 Ventricular Fibrillation/Pulseless Ventricular Tachycardia
 Cardiac Dysrhythmias
 Bradycardia/Blocks
 Supraventricular Tachycardia and Wide Complex
 Tachycardia
 Croup
 Diabetes
 Hyperglycemia
 Hypoglycemia
 Epiglottitis
 Heat Emergencies
 Hypothermia
 Inhalation of Hot Smoke and Gases

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Table of Contents		Last Revision Date: September 29, 2016
			Page: 3 of 5
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Overdose/Oral Poisoning
 Poisons – Inhaled or Absorbed
 Poisonous Bites and Stings
 Seizures
 Sickie Cell Crisis

Pediatric Trauma

Abdominal Trauma
 Burns
 Thermal
 Chemical and Electrical
 Cardiac Arrest
 Chest Trauma
 Drowning/Near Drowning
 Eye Injuries
 Fractures/Dislocations
 Head Injury
 Shock
 Spinal Trauma

Protocols Procedures

Age Category Definitions
 Airway Protocol
 Automated External Defibrillator (AED)
 Automatic Implantable Cardioverter/Defibrillators
 Baker Act
 Blood Sample Protocol
 BP Machines (DinaMap Procare DPC200X)
 Capnography
 Cardiac Pacing
 Chest Decompression
 CPAP (Continuous Positive Airway Pressure)
 Cricothyrotomy
 Endotracheal Drug Administration
 Endotracheal Tube Confirmation
 Endotracheal Tube Anchoring
 Hypothermia Induction Protocol
 Intraosseous Infusions
 Intravenous Therapy Protocol
 IV Pumps

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Table of Contents		Last Revision Date: September 29, 2016
			Page: 4 of 5
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Lifepak Cardiac Monitors
 King Vision Video Laryngoscope
 Mandatory Reporting Requirements
 Medicated Drips
 No Codes/Resuscitation/Determination of Death
 Nasogastric Tube Placement
 Nebulized Drug Administration
 Oxygenation & Ventilation
 Pediatric Restraint System (Transport Device)
 Post Exposure Prophylaxis (PEP)
 Positive-End-Expiratory Pressure (PEEP)
 RAD-57 (Carboxyhemoglobin Monitoring)
 Rapid Extrication Protocol
 Rapid Sequence Induction
 Simple Thoracostomy
 Spinal Motion Restriction
 Subclavian Protocol
 TASER Dart Removal
 Vagal Maneuvers

Drug Reference

Adenocard
 Aspirin
 Albuterol
 Ativan
 Atropine
 Atrovent
 Benadryl
 Benzocaine
 Brethine
 Calcium Chloride
 Cardizem
 Cordarone
 50% Dextrose in H₂O/Oral Glucose
 10% Dextrose in H₂O
 Dopamine
 DuoNeb
 Epinephrine
 Etomidate
 Fentanyl

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Table of Contents		Last Revision Date: September 29, 2016
			Page: 5 of 5
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Glucagon
 Lasix
 Lidocaine
 Lopressor
 Magnesium Sulfate
 Morphine Sulfate
 Narcan
 Nitroglycerin-Paste/SL
 Sodium Bicarbonate
 Solu-Medrol
 Succinylcholine
 Tetracaine
 Tridil (IV Nitroglycerin)
 Zofran

Hillsborough County Uniform Trauma Transport Protocol

Standards of Documentation

Tactical Medical Protocol

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Introduction		Last Revision Date: September 28, 2016
			Page: 1 of 4
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Overview

Under each division is an alphabetical listing of the various pathophysiological and the authorized treatments for each. The general divisions of this document are:

- Preface
- Adult Medical
- Adult Trauma
- Pediatric Medical
- Pediatric Trauma
- Protocol Section
- Drug Reference

Asterisks

If three (3) asterisks are in front of a procedure or drug, then a physician must be contacted prior to utilizing the indicated treatment or drug.

*

If one (1) asterisk is in front of a procedure or drug, then contact with TR1 must be made prior to utilizing the indicated treatment or drug.

MD 1

Temple Terrace Fire Department has contracted with a Medical Doctor to provide medical advice and orders for TTFD paramedics. The Medical Director is reached through the ECC. If the Medical Director is needed because SOG mandates it or because you would like to consult a physician, advise the ECC you are requesting MD 1 (all MD 1 conversations are recorded). The Medical Director will be the first contact person any time a physician consultation is needed (adult or pediatric).

TR1

Some protocols require TR1 contact. TR1 can be reached through the ECC. If no response from TR1 or it is known that TR1 is unavailable, contact MD 1 for all consultations and/or orders.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Introduction		Last Revision Date: September 28, 2016
			Page: 2 of 4
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

TGH Attending Physician

If no response from the Medical Director, advise ECC to contact Tampa General Hospital's Emergency Department. Orders may be obtained from the attending physician (only attending emergency department physicians will be used, no residents or medical students).

On-Scene Physician

It shall be the policy of the Temple Terrace Fire Department to provide medical care by this SOG. If a physician (M.D. or D.O.) arrives on the scene and **after providing proper identification** requests to take over patient care or to give you orders, politely inform the physician that to take charge of your patient they would be required to do **ALL** of the following:

- **Contact the MD 1 and ask to relinquish care to the doctor on the scene.**
- **Agree to accompany the patient to the hospital to provide direct and uninterrupted supervision of the patient.**
- **Acknowledge that they have accepted all responsibility for the patient and will be required to sign the patient treatment record at the receiving hospital.**

Only follow orders that you have been trained to perform and are in the best interest of the patient. If the physician is not willing to ride to the hospital with the patient, but is insisting on providing medical care, raise MD 1 and have the on-scene physician talk with MD1. If the physician is not willing to do any of the above, do not follow his/her orders and request law enforcement from ECC. Treat the patient per this SOG.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Introduction		Last Revision Date: September 28, 2016
			Page: 3 of 4
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Definitions

Adult: A patient who has the physical development of an adult.

Pediatric: In general, a patient less than 18 years of age. For our purposes of medical treatment “pediatric” implies less than a “normal” adult size. It is assumed that the paramedic has: *Sense and judgment to know when a legally “pediatric” patient should be treated as a clinically “adult” patient.*

NOTE: A pediatric trauma patient is less than or equal to 15 years of age for purposes of transport destination and alert criteria.

Standing Orders: Treatments and procedures that are approved and may be used to treat a patient, if they are necessary. The standing orders are concise and to the point. They were developed for quick and easy reference.

Protocols: A detailed summary of how a procedure or treatment is to be carried out. The procedure or treatment must be followed as outlined in the protocol section. Medical Control must approve any deviation.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Introduction		Last Revision Date: September 28, 2016
			Page: 4 of 4
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Preface

Under each division is an alphabetical listing of the various pathophysiologies and the authorized treatments for each. The extent to which you utilize the treatment will depend on the severity of the patient's condition. The listing of a treatment does not imply that it must be used (although it does imply that it should be considered in deciding the treatment). Paramedics/EMTs should be able to justify its omission or its use. The order of treatments listed is not necessarily in the order in which they must be used. The decision of which treatments to apply in a given situation is left to the discretion of the paramedic (ultimately, the **Engineer**). If a desired treatment or procedure is not listed and you have been thoroughly trained in its use, simply contact MD 1 and request authorization. Additionally, if you want direction or advice on treatment of a complicated patient call MD 1 for orders.

These protocols include both BLS and ALS procedures. All underlined notes are BLS procedures. All EMTs should be familiar with these underlined procedures. EMTs also have the ability to contact MD 1 for additional orders or direction with patient care.

The top of each page has month and year of issue. As the SOG is updated and changed, a revision of that page will be sent out. This updated page will have a new date and will supersede the old page.

The treatments and procedures described in this SOG are from the following sources:

- Advanced Cardiac Life Support, American Heart Association
- Pre-Hospital Trauma Life Support, American College of Emergency Physicians
- Emergency Medical Care – A Guide For The Paramedic In The Field, Department of Transportation
- Pediatric Advanced Life Support, American Heart Association

Temple Terrace Fire Department employees providing medical care are to use the above three texts as guides for treating patients.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 1 of 47		
	Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact			

Acute Abdomen

- A. Oxygen and airway control
- B. EKG monitor/12 Lead (pain above the umbilicus region)
- C. IV/IO Normal Saline
- D. Complete a FAST Ultrasound Examination

Notes:

1. If suspected Kidney Stones treat with Fentanyl 50 micrograms every 5 minutes for pain as long as SBP > 90 mmHg.
2. If FAST exam indicates presence of free fluid/blood, Pt. should be transported to the closest appropriate medical facility with available surgical resources.
3. Complete a FAST Exam worksheet.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 2 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Altered Level of Consciousness

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Glucose test strip
- D. Instaglucoase (patient is conscious with BGL < 60 mg/dL)
 - 15 grams SL
 - May repeat dose 1 time
- E. IV/IO Normal Saline
- F. D10W (BGL < 60 mg/dL and patient not able to safely take oral intake)
 - 5 grams = 50 ml IV/IO bolus
 - Repeat every 3 to 5 minutes based on BGL and GCS
- G. Glucagon (When unable to obtain IV and hypoglycemia present)
 - 1 mg (unit) IM
- H. Narcan
 - 0.4–2 mg IV/IO PRN (Titrate to respiratory increase)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose 2 mg (prefer 1 mg/ml concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 3 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Anaphylaxis/Allergic Reaction

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. Benadryl (If pruritus, urticaria, dyspnea present)
 - 50 mg IV/IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
- E. DuoNeb
 - Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
 - Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
 - Administer via CPAP or in-line NEB if patient is intubated
- F. Solu-Medrol (If pruritus, urticaria, dyspnea present)
 - 125 mg IV/IO (slow push, flush thoroughly)
- G. Epinephrine (for severe reaction- extensive facial edema, airway compromise, hypotension)
 - 0.3 to 0.5 mg (1:1,000) solution SQ
 - May be repeated one time in 3 to 4 mins.
- H. Epinephrine (If still hypotensive and/or severe dyspnea after two 1:1,000 SQ doses)
 - 0.1-0.3 mg (1:10,000) IV/IO over 5 mins.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 4 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Anxiety

This protocol is reserved for patients who do not respond to conventional calming techniques and are in danger of causing harm to themselves or fire department personnel.

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. Ativan
 - 1-2 mg IV/IO PRN (slow push, flush thoroughly)
 - Max. dose 5 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

Notes:

1. Patient must have SpO₂ > 95%
2. For use with CPAP and SpO₂ > 90% with O₂
 - Ativan dose 0.5 mg IV/IO (slow push, flush thoroughly)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 5 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Asthma/COPD

A. Oxygen and airway control

B. EKG monitor/12 Lead

C. IV/IO Normal Saline

D. DuoNeb

- Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
- Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
- Administer via CPAP or in-line NEB if patient is intubated

E. Brethine

- 0.25 mg SQ
- Give if patient has poor tidal volume

F. CPAP (Continuous Positive Airway Pressure)

G. Solu-Medrol

- 125 mg IV/IO (slow push, flush thoroughly)

H. Epinephrine (If patient unresponsive to above treatment)

- 0.3-0.5 mg (1:1,000) SQ
- Use caution with severe tachycardia, hypertension, history of cardiac disease/CHF/stroke

I. Magnesium Sulfate (If unresponsive to above therapy and in severe respiratory distress)

- 2 grams infusion IV/IO over 20 minutes

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 6 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest BLS Only

A. Treatment of cardiac arrest is to be provided in accordance with the American Heart Association Basic Life Support. The following are important points which should be followed for the patient in cardiac arrest:

- When resuscitation is indicated THE PATIENT WILL BE TREATED AGGRESSIVELY WHERE FOUND IF POSSIBLE
- Immediately hook up A.E.D. and assess the patient for need of defibrillation (Follow A.E.D. protocols)
- Initiate C.P.R.
- Insert airway (Follow appropriate airway protocol)
- Continue C.P.R.
- Notify incoming ALS unit of patient's status

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 7 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest (Non-Traumatic)

Treatment of cardiac arrest is to be provided in accordance with the current American Heart Association Advanced Cardiac Life Support Standards and Guidelines. The following are important points, which will be followed for the patient in cardiac arrest:

- A. If treating a cardiac patient, remember; **TREAT THE PATIENT, NOT THE MONITOR.** Adequate airway management, ventilation, oxygenation, chest compressions, and defibrillation are more important than administering medication and therefore take precedence over initiating an IV line or injecting medications.
- B. If resuscitation is indicated, **THE PATIENT WILL BE TREATED AGGRESSIVELY WHERE FOUND**, when possible.
- C. If intravenous medications are administered, give a 20 mL bolus of intravenous Normal Saline and immediately elevate the extremity. This may be accomplished by simply opening the IV.
- D. If IV access can be obtained, the largest bore catheter should be used.
- E. Intraosseous insertion is needed if IV access is not able to be obtained within 90 seconds.
- F. If a subclavian catheter is indicated, it should be used on adult size patients only.
- G. If an IV or IO line cannot be established, the endotracheal route may be used for drug administration (Lidocaine, Epinephrine, Atropine, Narcan). The dose is doubled when giving a medication via ETT.
- H. If the patient has a history of diabetes and/or glucose test strip shows hypoglycemia give 5 grams = 50 ml of D10W and repeat every 3 to 5 minutes based on BGL and GCS.
- I. If narcotic overdose is suspected, give Narcan 0.4 - 2 mg IV/IO PRN May give IM injection of same dose if unable to establish IV/IO within reasonable period of time. May give IN if no IV has been established 0.1 mg/kg, max dose of 2 mg.
- J. If the patient is in PEA and takes a calcium channel blocker, give 1 gram Calcium Chloride infusion over 20 minutes IV/IO.
- K. If prolonged resuscitation or suspected preexisting acidosis administer Sodium Bicarbonate 1 mEq/kg IV/IO.
- L. If patient has a return of cardiac rhythm with a pulse, a 12 Lead may be indicated.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 8 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Asystole

A. Oxygen and airway control

B. EKG monitor/12 Lead

C. IV/IO Normal Saline

D. Epinephrine

- 1 mg (1:10,000) IV/IO
- 2 mg (1:10,000) ETT (IV/IO unsuccessful)
- Repeat every 3-5 mins. PRN

E. Rule out treatable causes and correct problem if found:

Hypovolemia, Hypoxia, Hydrogen Ion (acidosis),
Hypo/Hyperkalemia, Hypoglycemia, Hypothermia

Toxins, Tamponade, Tension Pneumothorax, Thrombosis (cardiac or
pulmonary), Trauma

*** F. Termination of resuscitation

Contact MD1 for permission to terminate if:

1. ETT/AirQ in place and confirmed
2. IV/IO access has been established
3. 2 rounds of intervention without success
4. Crew has discussed termination of efforts with family members

Notes:

1. Confirm Asystole in two contiguous leads.
2. Consider defibrillation if rhythm is unclear and possibly Ventricular Fibrillation.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 9 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Bradycardia/Heart Blocks

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. Bradycardia (1st degree and 2nd degree type 1)
 - Atropine 0.5 -1 mg IV/IO (slow push, flush thoroughly)
 - Repeat every 3-5 minutes PRN
 - Max. dose of 3 mg
 - Transcutaneous pacing
 - Dopamine infusion 10-20 micrograms/kg/min IV/IO
 - Epinephrine infusion 2-10 micrograms/min IV/IO
- E. Bradycardia (2nd degree type 2 and 3rd degree)
 - Transcutaneous pacing
 - Dopamine infusion 10-20 micrograms/kg/min IV/IO
 - Epinephrine infusion 2-10 micrograms/min IV/IO
- F. Ativan (if pacing)
 - 1-2 mg IV/IO PRN (slow push, flush thoroughly)
 - Max. dose 5 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose of 2 mg (prefer 2 mg/mL concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 10 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Bradycardia/Heart Blocks

Notes:

1. Serious signs and symptoms must be related to the slow heart rate to consider treatment. Clinical manifestations include:
 - Symptoms (chest pain, SOB, decreased LOC)
 - Signs (low B/P, shock, CHF, acute MI)
2. Do not delay TCP while waiting for IV/IO access or for atropine to take effect.
3. Denervated transplanted hearts will not respond to atropine. Utilize TCP, catecholamine infusion or both.
4. Atropine should be used with caution in AV blocks at or below the His-Purkinje level.
5. **Never** treat 3rd degree block with ventricular escape beats with Lidocaine/Cordarone/Cardizem.
6. Verify patient tolerance and mechanical capture when using TCP. Use sedation as needed.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 11 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

PEA- Pulseless Electrical Activity

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. Epinephrine
 - 1 mg (1:10,000) IV/IO
 - 2 mg (1:10,000) ETT (IV/IO unsuccessful)
 - Repeat every 3-5 mins.
- E. Rule out treatable causes and correct problem if found:
 - Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hypo/Hyperkalemia, Hypoglycemia, Hypothermia
 - Toxins, Tamponade, Tension Pneumothorax, Thrombosis (cardiac or pulmonary), Trauma

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 12 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Ventricular Fibrillation/Pulseless Ventricular Tachycardia

A. Defibrillation or 2 minutes of CPR

- If patient down time is < 4 min defibrillate immediately one time at 200 J. Subsequent shocks will escalate to 300J then 360J. (Do not perform stacked shocks).
- If patient down time is > 4 min perform 2 minutes of CPR then defibrillate one time at 200 J. Subsequent shocks will escalate to 300J then 360J. (Do not perform stacked shocks).
- As long as the patient is in ventricular fibrillation, defibrillation will follow the administration of any drug.

B. Epinephrine

- 1 mg (1:10,000) IV/IO
- 2 mg (1:10,000) ETT (IV/IO unsuccessful)
- repeat dose every 3-5 mins.

C. Amiodarone (Cordarone)

- 300 mg IV/IO
- 150 mg IV/IO in 3-5 minutes

D. Rule out treatable causes and correct problem if found:

- Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hypo/Hyperkalemia, Hypoglycemia, Hypothermia
- Toxins, Tamponade, Tension Pneumothorax, Thrombosis (cardiac or pulmonary), Trauma

E. Magnesium Sulfate

- 1-2 grams IV/IO

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 13 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Ventricular Fibrillation/Pulseless Ventricular Tachycardia (cont.)

F. Lidocaine

- 1.5 mg/kg IV/IO
- Max dose 3 mg/kg

Notes:

1. Consider Sodium Bicarbonate 1 mEq/kg IV/IO (prolonged resuscitation or suspected preexisting acidosis)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 14 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Dysrhythmias-Supraventricular Tachycardia

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. Vagal Maneuvers (cough or bearing down)
 - **Stable patients only!**
- E. Synchronized Cardioversion (If ventricular rate > 150 BPM and patient is unstable)
 - A. Ativan (for sedation)
 - 1-2 mg IV/IO PRN (slow push, flush thoroughly)
 - Max. dose 5 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg, max dose 2 mg (prefer 2 mg/mL concentration)
 - B. Energy levels: 100 J, 200 J

All Other SVT Rhythms

- A. Adenocard
 - 6 mg rapid IV/IO (may be repeated 2 times at 12 mg per dose)
 - Max. dose of 30 mg
 - **Go directly to Cardizem if A-fib is recognized after first dose of Adenocard**
- B. Cardizem
 - 20 mg IV/IO (slow push, flush thoroughly)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 15 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Dysrhythmias-Atrial fibrillation

Atrial Fibrillation

If the PALPABLE HR is < 150 BPM

- A. Monitor and provide general supportive care

If the PALPABLE HR is > 150 BPM

STABLE

- A. Cardizem

- 20 mg IV/IO (slow push, flush thoroughly)

UNSTABLE

- A. Ativan (for sedation)

- 1-2 mg IV/IO PRN
- Max. dose 5 mg
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
- 0.1 mg/kg, max dose of 2 mg (prefer 2 mg/mL concentration)

- B. Synchronized Cardioversion

- Energy levels: 200J, 300J, 360J

Notes:

1. Unstable condition must be related to tachycardia.
2. A regular narrow-complex Tachycardia (SVT and Atrial Flutter often respond to lower energy levels, may start at 50J).
3. Signs and symptoms of unstable patients may include chest pain, SOB, decreased LOC, low B/P, shock, pulmonary congestion, CHF, and AMI.
4. Must palpate the heart rate for 60 seconds if Atrial Fibrillation present. (DO NOT rely on the EKG monitor for HR assessment).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 16 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Dysrhythmias-Ventricular Ectopy

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. Assess need for acute suppressive therapy
 - Rule out treatable causes (consider hypoxia, serum potassium, digitalis level, Bradycardia, and drug overdose)
- E. Amiodarone (Cordarone)
 - 150 mg IV/IO (infusion over 10 minutes)
- F. Lidocaine (Amiodarone unsuccessful)
 - 1 mg/kg IV/IO
 - 2 mg/kg ETT (IV/IO unsuccessful)
 - Repeat Lidocaine 0.5 mg/kg every 5 to 10 minutes until ectopy suppressed or a Max. dose of 3 mg/kg.
 - If ectopy is suppressed then Lidocaine infusion:
 - A. After Lidocaine 1 mg/kg-----infuse 2 mg/minute
 - B. After Lidocaine 1-2 mg/kg -----infuse 3 mg/minute
 - C. After Lidocaine 2-3 mg/kg -----infuse 4 mg/minute

Notes:

1. Beware of treating ventricular escape beats as PVC's. **This can be fatal.**
2. Advanced age and compromised liver function dictate lower loading doses of Lidocaine. These patients should receive a single dose of 1 mg/kg.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 17 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Dysrhythmias-Ventricular Tachycardia

- A. Oxygen and airway
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. If no pulse present, treat as Ventricular Fibrillation
- E. Amiodarone (Cordarone)
 - 150 mg IV/IO (infusion over 10 minutes)
- F. Lidocaine (If Amiodarone unsuccessful)
 - 1 mg/kg IV/IO
 - 2 mg/kg ETT (IV/IO unsuccessful)
 - Repeat Lidocaine 0.5 mg/kg every 5 to 10 minutes until ectopy suppressed or a Max. dose of 3 mg/kg.
 - If ectopy is suppressed then Lidocaine infusion:
 1. After Lidocaine 1 mg/kg-----infuse 2 mg/minute
 2. After Lidocaine 1-2 mg/kg -----infuse 3 mg/minute
 3. After Lidocaine 2-3 mg/kg -----infuse 4 mg/minute
- G. Synchronized cardioversion (HR > 150 BPM and patient is unstable)
 1. Ativan (for sedation)
 - 1-2 mg IV/IO PRN (slow push, flush thoroughly)
 - Max. dose 5 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2mg/mL concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
			Page: 18 of 47
	Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact			

Cardiac Dysrhythmias-Ventricular Tachycardia

2. Synchronized Cardioversion

- Energy levels: 100 J then 200 J

Notes:

1. Unstable condition must be related to tachycardia. Signs and symptoms may include chest pain, shortness of breath, decreased LOC, low blood pressure, CHF, MI.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 19 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiogenic Shock

A. Oxygen and airway

B. EKG monitor/12 Lead

C. IV/IO Normal Saline

- 250 mL NS Bolus if patient is not in congestive heart failure

D. Dopamine

- Start infusion at 10 micrograms/kg/min.
- Titrate to a Max. dose of 20 micrograms/kg/min.
- Titrate to maintain SBP > 90 mmHg

Notes:

1. Cardiogenic shock shall be defined as a patient having signs and symptoms of cardiac failure and has a SBP < 90 mmHg.
2. Early intubation if necessary with the use of RSI.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 20 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Chest Pain of Cardiac Origin

A. Oxygen and airway control

B. EKG Monitor/12 Lead (at patient and arrival at hospital)

C. ASA 324 mg PO

D. IV/IO Normal Saline

E. 12 lead EKG and Heart Alert Screening (12 lead done at patient and at hospital)

F. Nitroglycerin SL (SBP must be > 100 mmHg)

- 0.4 mg SL
- Repeat dose every 5 minutes as needed

G. Nitroglycerin Paste (SBP must be > 100 mmHg)

- place 1” (1 pack) NTG paste on patient’s chest wall after 3 doses of SL NTG or if patient becomes pain free after any dose of SL NTG.

H. Morphine

- 2.5-5 mg every 5 mins. IV/IO (slow push, flush thoroughly)
- Max. dose of 10 mg, SBP must be >100 mmHg
- Use caution in patients > 75 y/o, < 100 lbs., HR < 50, or BBB

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 21 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Chest Pain of Cardiac Origin

I. Zofran (Following Morphine)

- 4 mg IV/IO (slow push, flush thoroughly)
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

J. IV Normal Saline (Establish 2 peripheral IV's)

K. Tridil (May be used in place of NTG paste at paramedic discretion)

- 10 micrograms/minute infusion via IV pump
- Must administer 1 SL nitroglycerin prior to starting Tridil
- Titrate infusion to chest pain, SBP must remain > 100 mmHg
- Increase infusion 5 micrograms every 5 minutes
- Discontinue infusion if patient becomes hypotensive or has change in mental status
- If SBP < 100 mmHg 250 mL NS Bolus PRN
- If patient remains hypotensive after NS Bolus, consider cardiogenic shock protocol
- Two Paramedics will accompany patient with infusion

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
			Page: 22 of 47
	Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact			

Chest Pain of Cardiac Origin

L. Lopressor

- **ONLY** if BP > 180/100 mmHg and/or HR > 100
- **DO NOT** use if HR < 60
- 5 mg IV/IO (slow push, flush thoroughly)

Notes:

1. Do not administer nitroglycerin if patient has taken Viagra, Cialis, Levitra or other vasodilating sexual enhancement medication within the last 24 hours.
2. Call a “**STEMI Alert**” if patient meets criteria on Cardiac Checklist.
3. DO NOT administer NTG paste and Tridil at the same time.
4. Use NTG paper to measure 1” length.
5. Apply NTG paste to chest wall with best skin contact (No hair, scars, cuts, irritations).
6. DO NOT rub NTG paste into patient’s skin.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 23 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Congestive Heart Failure

A. Oxygen and airway control

B. EKG monitor/12 Lead

C. IV/IO Normal Saline

D. Nitroglycerin

- 0.8 mg SL
- repeat dose every 5 minutes as long as SBP is > 100 mmHg

E. CPAP (Continuous Positive Airway Pressure)

F. Tridil

- 10 micrograms/minute infusion via IV pump
- Must administer 1 SL nitroglycerin prior to starting Tridil
- Titrate infusion to chest pain, SBP must remain > 100 mmHg
- Increase infusion 5 micrograms every 5 minutes
- Discontinue infusion if patient becomes hypotensive or has change in mental status
- If SBP < 100 mmHg 250 mL NS Bolus PRN
- If patient remains hypotensive after NS Bolus, consider cardiogenic shock protocol
- Two Paramedics will accompany patient with infusion
- Multiple SL doses of NTG **are not** an acceptable substitute for IV Tridil, unless no IV access is available.

G. Lasix

- 40 mg IV / IO (push slow, flush thoroughly)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 24 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Congestive Heart Failure (cont.)

H. Morphine (If patient in severe CHF)

- 2.5-5 mg every 5 mins. IV/IO (slow push, flush thoroughly)
- Max. dose of 10 mg, SBP must be >100 mmHg
- Use caution in patients > 75 y/o, < 100 lbs., HR < 50, or BBB

I. Zofran (Following Morphine)

- 4 mg IV/IO (slow push, flush thoroughly)
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

J. DuoNeb (If patient is wheezing)

- Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
- Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
- Administer via CPAP or in-line NEB if patient is intubated

K. Consider using PEEP valve on ventilated patients at a Max. of 10 cm/H2O.

Notes:

7. Do not administer Nitroglycerin if patient has taken Viagra, Cialis, Levitra or other vasodilating sexual enhancement medication within the last 24 hours.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 25 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

CVA/TIA

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Elevate head of stretcher 30 degrees
- D. Glucose test strip
- E. IV/IO Normal Saline
 - 250 mL NS Bolus if SBP < 100 mmHg
- F. D10W (BGL < 60 mg/dL and patient not able to safely take oral intake)
 - 5 grams = 50 ml IV/IO (slow push, flush thoroughly)
 - Repeat every 3 to 5 minutes based on BGL and GCS
- F. Asymptomatic hypertension is to be treated if:
 - The SBP is > 220 mmHg or DBP is > 120 mmHg
 - **Recheck B/P at least twice, 10 minutes apart, before treating B/P (Once on each arm if possible)**
- G. Symptomatic hypertension is to be treated if:
 - The SBP is > 180 mmHg or DBP is > 100 mmHg
 - Symptoms include: headache, nosebleed, altered LOC, chest pain, stroke symptoms, etc.
 - **Recheck B/P at least twice, 10 minutes apart, before treating B/P (Once on each arm if possible)**

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 26 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

CVA/TIA (cont.)

H. Lopressor

- **ONLY** if BP > 180/100 mmHg and/or HR > 100
- **DO NOT** use if HR < 60
- 5 mg IV/IO (slow push, flush thoroughly)

I. Ativan (seizure management)

- 1-2 mg IV/IO PRN (slow push, flush thoroughly)
- Max. dose 5 mg
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
- 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

Notes:

1. **If the patient's stroke symptoms started in the past 12 hours and/or the patient awakens from sleep with their symptoms, then a "Stroke Alert" shall be called and the patient shall be transported to Florida Hospital Tampa.**

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 27 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Heat-Related Emergencies

Heat Cramps / Heat Exhaustion

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Move patient to cool environment, prevent hypothermia
- D. Consider oral hydration with water
- E. IV/IO Normal Saline
 - 1,000 mL Bolus

Heat Stroke

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Move patient to cool environment, prevent hypothermia
- D. Immediately remove clothing and cool patient with water, air conditioner and ice packs under arms, behind neck, and in groin
- E. IV/IO Normal Saline
 - 1,000 mL Bolus

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 28 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Hyperglycemia

- A. Oxygen and airway
- B. EKG monitor/12 Lead
- C. Glucose test strip
- D. Hydration
 - Consider oral hydration with water
- E. IV/IO Normal Saline
 - 1,000 mL over 15-20 mins.
- F. Zofran
 - 4 mg IV/IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV within reasonable period of time

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 29 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Hypoglycemia

- A. Oxygen and airway
- B. EKG monitor/12 Lead
- C. Glucose test strip
- D. IV/IO Normal Saline
- E. Instagluce (If patient conscious with BGL < 60 mg/dL)
 - 15 grams SL
 - May repeat dose 1 time
- F. D10W (If BGL < 60 mg/dL and patient not able to safely take oral intake)
 - 5 grams = 50 ml IV/IO bolus
 - Repeat every 3 to 5 minutes based on BGL and GCS
- G. Glucagen (if unable to establish IV/IO)
 - 1 mg (unit) IM

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 30 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Hypertension

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Elevate head of stretcher 30 degrees
- D. IV/IO Normal Saline
- E. Asymptomatic hypertension is to be treated if:
 - The SBP is > 220 mmHg or DBP is > 120 mmHg
 - **Recheck B/P at least twice, 10 minutes apart, before treating B/P (Once on each arm if possible)**
- F. Symptomatic hypertension is to be treated if:
 - The SBP is > 180 mmHg or DBP is > 100 mmHg
 - Symptoms include: headache, nosebleed, altered LOC, chest pain, stroke symptoms, etc.
 - **Recheck B/P at least twice, 10 minutes apart, before treating B/P (Once on each arm if possible)**
- G. Lopressor
 - **ONLY** if BP > 180/100 mmHg and/or HR > 100
 - **DO NOT** use if HR < 60
 - 5 mg IV/IO (slow push, flush thoroughly)
- H. Nitroglycerin SL
 - 0.4 mg SL
 - Repeat dose every 5 minutes until SBP < 180.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
			Page: 31 of 47
	Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact			

Hypertension (cont.)

Notes:

1. Do not administer nitroglycerin if patient has taken Viagra, Cialis, Levitra or other vasodilating sexual enhancement medication within the last 24 hours.
2. Do not administer nitroglycerin to any pregnant patient.
3. SL nitroglycerin shall be administered to the patient if:
 - Lopressor is contraindicated
 - No change in patient condition after administration of Lopressor
 - Unable to obtain IV access

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 32 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Hypothermia

- A. Oxygen and airway control
- B. Remove wet clothing and remove patient from cold environment
- C. Cover patient, included head, with blankets and move inside heated unit
- D. EKG monitor/12 Lead
- E. Glucose test strip
- F. IV/IO Normal Saline (preferably warm)
- G. Severe Hypothermia (Core temperature < 95 degrees and/or decreased LOC)
 - Handle patients gently (Patients are prone to convert to V-fib)
 - Cardiac Arrhythmias:
 1. Bradycardia – patients may tolerate bradycardia very well. Heart rate may be expected to drop 10 BPM for each degree in body temperature.
 2. Asystole – perform CPR, refer to Asystole protocol.
 3. Ventricular fibrillation / Pulseless Ventricular Tachycardia – **ONLY** defibrillate 1 time at 200 J.

Notes:

1. Remember, a hypothermic patient can be resuscitated from very cold temperatures.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 33 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Nausea/Vomiting

A. Oxygen and airway control

B. EKG Monitor/12 Lead

C. Glucose test strip

D. IV/IO Normal Saline

E. Zofran

- 4 mg IV/IO (slow push, flush thoroughly)
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 34 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Obstetrics

General Procedures / Normal Delivery

- A. Oxygen and airway
- B. EKG monitor / 12 Lead
- C. Transport mother on left side, if delivery not imminent
- D. IV/IO Normal Saline

Neonatal Care

- A. Dry patient vigorously, especially the head
- B. Slight Trendelenburg with head turned to the side for drainage
- C. Suction mouth first then nose (watch for bradycardia)
- D. Wrap in silver blanket
- E. Blow by oxygen if indicated
- F. Record time of delivery and 1 and 5 minute APGAR scores
- G. Suction meconium via aspirator only if patient is not vigorous

Breech Delivery

- A. Rapid transport
- B. Support baby's legs and trunk as they present
- C. Insert sterile gloved hand into vagina to form airway (elevate trunk using towel sling-fashion may help rotate baby's head beneath symphysis pubis and allow delivery)
- D. Hold oxygen tubing near hand-created airway

Prolapsed Cord

- A. Rapid transport
- B. Elevate mother's pelvis (or knee-chest position)
- C. Insert sterile gloved hand and apply gentle counter-pressure to baby's head
- D. Keep cord moist
- E. Brethine (given to mother)

- 0.25 mg SQ

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 35 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Obstetrics (cont.)

Single Limb Presentation

- A. Rapid transport
- B. Elevate mother's pelvis (or knee-chest position)

Spontaneous Abortion/ Miscarriage/ Ruptured Ectopy Pregnancy

- A. Rapid transport
- B. Preserve all discharge and present to medical facility
- C. 250 mL NS Bolus as needed to support SBP > 100 mmHg

Placenta Previa/ Abruption Placenta

- A. Rapid transport
- B. NS Bolus PRN to support SBP > 100 mmHg

Post-Partum Hemorrhage

- A. Rapid transport
- B. Uterine massage
- C. Allow baby to nurse
- D. 250 mL NS Bolus PRN to support SBP > 100 mmHg

Toxemia (Pre-eclampsia)

- A. Gentle treatment (protect from lights, noise, etc., which may provoke seizures)

Eclamptic Seizures

- A. Magnesium Sulfate
 - 2 – 5 grams IV/IO over 10 – 20 minutes
 - Follow with drip 1-2 grams/hour

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 36 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Overdose/Oral Poisoning

Tampa General Poison Control Center # 844-4444

General Procedures

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline

Beta Blocker OD (Tenormin, Inderal, Lopressor, Metoprolol, Propranolol)

- A. Glucagon (if patient is hypotensive and/or bradycardia is present)
 - 3 mg IV/IO over 1 minute
- B. NS Bolus
 - 500 mL IV/IO
- C. Epinephrine (if unresponsive to Glucagon)
 - 2-10 micrograms/minute infusion IV/IO
 - titrate to maintain blood pressure

Calcium Channel Blocker OD (Verapamil, Cardizem, Isoptin, Procardia)

- A. Calcium Chloride (if patient is hypotensive and/or bradycardia is present)
 - 1 gram infusion IV/IO over 20 mins.
 - **Do not mix with Sodium Bicarbonate**
- B. NS Bolus
 - 500 mL IV/IO

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 37 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Overdose/Oral Poisoning (cont.)

C. Epinephrine

- 2-10 micrograms/minute infusion IV/IO
- titrate to maintain blood pressure

Cyanide Poisoning

Arriving on-scene and making patient contact, consider the following:

- General Body Substance Isolation (BSI) precautions.
- Hazmat Decontamination procedures when external contamination is suspected.

A. Oxygen and Airway Control

B. EKG Monitor/12 Lead

C. IV/IO Normal Saline (Establish 2 sites)

D. Hydroxocobalamin (Cyno Kit)

- 5 grams over 15 mins. IV/IO

E. Ativan (seizure management)

- 1-2 mg IV/IO PRN (slow push, flush thoroughly)
- Max. dose 5 mg
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
- 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 38 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Overdose/Oral Poisoning (cont.)

Narcotic OD

A. Narcan

- 0.4-2 mg IV/IO PRN (Titrate to respiratory increase)
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
- 0.1 mg/kg IN, max dose 2 mg (prefer 1 mg/ml concentration)

Organophosphates/Nerve agents

A. Avoid skin contact and flush with copious amounts of water

B. DuoDote auto-injector

- 2.1 mg Atropine/600 mg Pralidoxime Chloride
- SLUDGE (salivation, lacrimation, urination, diarrhea, GI distress, emesis)
- Consider up to 3 DuoDote injections for severe cases

C. Atropine

- 2 mg IV (until secretions dried)
- SLUDGE (salivation, lacrimation, urination, diarrhea, GI distress, emesis)

D. Ativan (seizure management)

- 1-2 mg IV/IO PRN (slow push, flush thoroughly)
- Max. dose 5 mg
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
- 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
			Page: 39 of 47
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Overdose/Oral Poisoning (cont.)

Phenothiazine OD (Compazine, Thorazine, Mellaril, Haldol)

- A. Benadryl (if dystonia present – distorted twisting or movement of a body part)
 - 50 mg IV/IO/IM (slow push, flush thoroughly if IV/IO)
- B. Ativan (dyskinesia presents – active, uncontrollable movement which is painful)
 - 1-2 mg IV/IO PRN (slow push, flush thoroughly)
 - Max. dose 5 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

Tricyclic Antidepressant OD (Elavil, Imipramine, Amitriptyline, Sinequan)

- A. Sodium Bicarbonate (if hypotensive, Tachycardia, and/or cardiac conduction disturbances are present)
 - 1 mEq/kg IV / IO (PRN)

Synthetic Drug OD/Poisoning (K2, Jazz, Spice, Bath salts)

- A. Ativan (seizure management)
 - 1-2 mg IV/IO PRN
 - Max. dose 5 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)
- B. NS Bolus 500 mL N (HR > 100)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 40 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

GHB

- A. Perform aggressive airway management.

Poisonous Stings and Bites

- A. Oxygen and airway control
- B. Keep patient calm and immobilize limb
- C. Apply constricting band **only** if victim or bystander has applied tourniquet. Place constricting band 2 inches above tourniquet and then remove tourniquet.
- D. EKG monitor/12 Lead
- E. IV/IO Normal Saline
- F. Treat anaphylaxis per protocol

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 41 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Renal Failure

This protocol addresses issues regarding the out-of-hospital management of renal dialysis patients that are not covered in the standard protocols.

General Procedures

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Glucose test strip
- D. IV/IO Normal Saline

CHF/Pulmonary Edema

- A. Nitroglycerin
 - 0.8 mg SL every 5 minutes as long as SBP remains > 100 mmHg
- B. Tridil
 - 10 micrograms/minute infusion via IV pump
 - Must administer 2 SL nitroglycerin prior to starting Tridil
 - Titrate infusion to chest pain, SBP must remain > 100 mmHg
 - Increase infusion 5 micrograms every 5 minutes
 - Discontinue infusion if patient becomes hypotensive or has change in mental status
 - If SBP < 100 mmHg 250 mL NS Bolus PRN
 - If patient remains hypotensive after NS Bolus, consider cardiogenic shock protocol
 - Two Paramedics will accompany patient with infusion
 - Multiple SL doses of NTG **are not** an acceptable substitute for IV Tridil, unless no IV access is available.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 42 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Renal Failure (cont.)

C. CPAP (Continuous Positive Airway Pressure)

D. Morphine

- 2.5-5 mg every 5 mins. IV/IO (slow push, flush thoroughly)
- Max. dose of 10 mg, SBP must be >100 mmHg
- Use caution in patients > 75 y/o, < 100 lbs., HR < 50, or BBB

E. Zofran (Following Morphine)

- 4 mg IV/IO (slow push, flush thoroughly)
- May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

F. Dopamine (If patient remains hypotensive)

- Start at 10 micrograms/kg/minute and titrate to a max. of 20 micrograms/kg/minute

G. Consider Peep Valve on Ventilated patients (Max. of 10 cm H₂O)

Notes:

1. Be prepared to intubate the patient
2. Do not administer Lasix in renal failure patients

Hyperglycemia

A. Rapid Transport

Notes:

1. Do not administer fluid bolus.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 43 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Renal Failure (cont.)

Hyperkalemia

Hyperkalemia will almost always be asymptomatic up until the patient experiences a life-threatening arrhythmia. A normal EKG does not rule out the presence of Hyperkalemia, though characteristic changes consistent with

Hyperkalemia (wide bizarre complex or widened QRS, peaked “T” wave, possible bradycardia) should be treated prior to laboratory confirmation.

A. Sodium Bicarbonate (Onset approx. 10 minutes)

- 1 mEq/kg IV / IO over 1 to 2 minutes

B. Albuterol (onset approx. 30 minutes)

- 10 – 20 mg via nebulizer

C. Calcium Chloride (onset approx. 5 to 10 minutes)

- 1 gram IV/IO over 20 mins.
- **Do not mix with Sodium Bicarbonate**

Special Considerations

- A. Vascular access sites (fistulas, grafts, and central lines) should be treated with care, as they are truly the patient’s lifelines. Blood pressure readings and venipuncture should be performed on the opposite arm. A tourniquet should never be applied to an arm with an access site. Some patients will have a subclavian catheter in place for dialysis (blue end is venous). Patients who perform CAPD will have a catheter in their abdomen. Both of these should be handled in an aseptic manner.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 44 of 47		
	Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact			

Renal Failure (cont.)

- C. Bleeding from a site should be controlled with gentle pressure for at least 10 minutes.

- D. A renal dialysis patient in cardiac arrest should be considered to have hyperkalemia until proven otherwise. Early administration of Sodium Bicarbonate and Calcium Chloride are indicated.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 45 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Sepsis

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Vital signs including temperature (rectal if possible)
- D. See Sepsis Alert screening tool
- E. If Modified Shock Index (MSI) is < **0.7** or > **1.3**
 - 30 mL/kg NS Bolus infusion with pressure infuser.
- F. Notify Dispatch to time stamp the Sepsis Alert.
- G. Contact receiving facility to notify them of the Sepsis Alert patient.
- H. Provide the receiving RN a copy of the Sepsis Alert screening tool.

Notes:

1. If patient has a history of CHF and shows signs and symptoms of CHF then you may administer 250 ml bolus of IV fluid and reassess respiratory status in between boluses. Discontinue IV fluids if there is respiratory compromise.
2. For any patient in which you use the Sepsis Alert screening tool (whether they are an Alert or not) forward the original form to TR1 for review.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 46 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Seizures

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Glucose test strip
- D. Try to protect patient from further trauma
- E. IV/IO Normal Saline
- F. Ativan
 - 1-2 mg IV/IO PRN (slow push, flush thoroughly)
 - Max. dose 5 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Medical		Last Revision Date: September 19, 2016
	Page: 47 of 47		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Sickle Cell Crisis

A. Oxygen and airway control

B. EKG monitor/12 Lead

C. IV/IO Normal Saline

D. Morphine

- 2.5-5 mg every 5 mins. IV/IO (slow push, flush thoroughly)
- Max. dose of 10 mg, SBP must be >100 mmHg
- Use caution in patients > 75 y/o, < 100 lbs., HR < 50, or BBB

E. Zofran (Following Morphine)

- 4 mg IV/IO (slow push, flush thoroughly)
- May give IM injection of same dose if unable to establish IV within reasonable period of time

Notes:

1. Limit total fluid administration.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 1 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Abdominal Trauma

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline
- D. NS Bolus (If patient hypotensive)
 - 20 mL/kg Bolus to maintain blood pressure
- E. Complete a FAST Ultrasound Examination

Notes:

1. If the FAST exam indicates the presence of free fluid/blood in the presence of a mechanism of injury, the patient will be treated and transported as a Trauma Alert under the Paramedic Judgment provision of the UTP and will be awarded 2 points as his/her trauma score.
 2. Do not delay transport for the purpose of completing a FAST exam. This assessment can be completed during transport.
 3. Complete a FAST Exam worksheet.
- * Contact with TR1 is required for any positive FAST exams where Trauma Alert criteria would not have been met otherwise. This contact can be made after the call.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 2 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Burns-Thermal

- A. Oxygen and airway control
- B. EKG monitor
- C. Stop burning process and prevent loss of body heat
- D. Continuous wet sterile dressing over not more than 10% of TBSA at one time
- E. Sterile dressing or burn sheets over all other burned areas
- F. IV/IO Normal Saline
- G. Fentanyl
 - 50 micrograms IV/IO every 5 mins. (slow push, flush thoroughly)
 - SBP must be > 90 mmHg
 - 2 mcg/kg IN, max dose 50 micrograms (prefer 50 mcg/mL concentration)
- H. Morphine
 - 2.5-5 mg every 5 mins. (slow push, flush thoroughly)
 - SBP must be >100 mmHg
 - Max. dose of 10 mg
 - Use caution in patients > 75 y/o, < 100 lbs., HR < 50, or BBB
- I. Zofran (Following Narcotic)
 - 4 mg IV/IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

Notes:

1. For inhalation injuries see protocol for inhalation of hot smoke and gases.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 3 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Burns-Chemical and Electrical

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. Stop burning process and prevent loss of body heat
- D. Brush off any remaining chemical
- E. Flush with copious amounts of fluid (If chemical burn)
- F. IV/IO Normal Saline
- G. Treat cardiac dysrhythmias as per standing orders
- H. Fentanyl
 - 50 micrograms IV/IO every 5 mins. (slow push, flush thoroughly)
 - SBP must be > 90 mmHg
 - 2 mcg/kg IN, max dose 50 micrograms (prefer 50 mcg/mL concentration)
- I. Morphine
 - 2.5-5 mg every 5 mins. (slow push, flush thoroughly)
 - SBP must be >100 mmHg
 - Max. dose of 10 mg
 - Use caution in patients > 75 y/o, < 100 lbs., HR < 50, or BBB
- J. Zofran (Following Narcotic)
 - 4 mg IV/IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

Notes:

1. Contact Poison Control for chemical exposures: **813-844-4444.**

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 4 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest-Traumatic

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor/12 Lead
- D. IV/IO Normal Saline
- E. Further treatment according to current ACLS and PHTLS standards
- F. A patient either initially meeting or deteriorating to the criteria for a blunt trauma code can be assumed to have sustained a terminal injury. When all of the conditions listed below are satisfied, no resuscitative measures are required, and any emergency treatment in progress may be stopped.

In deciding if a victim is a blunt trauma code, all of the following conditions must be present:

- Present history of blunt trauma
 - Apneic
 - Pulseless
 - No palpable blood pressure
 - No heart sounds, or
Asystole (no electrical activity on monitor), or
Agonal rhythm (wide ventricular complex with HR < 40 BPM)
- G. **Simple Thoracostomy must be performed if resuscitation has been initiated. Simple Thoracostomy is not required if patient meets the Blunt Trauma Code Criteria and no resuscitative measures are initiated.**
 - Refer to simple thoracostomy protocol
- H. See (No Codes/Resuscitation/Determination of Death) in protocol section for documentation guidelines.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
	Page: 5 of 14		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Chest Trauma

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor/12 Lead
- D. IV/IO Normal Saline
- E. Chest decompression (if indicated)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 6 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Drowning/Near Drowning

- A. Oxygen and airway control
- B. Consider spinal trauma (especially in unconscious patients)
- C. EKG monitor/12 Lead
- D. IV/IO Normal Saline

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 7 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Eye Injuries

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor
- D. IV/IO Normal Saline
- E. Tetracaine
 - 1 – 2 drops of a 0.5 % Tetracaine solution (Minor eye abrasions, pepper spray/ chemical spray). Do not use with penetrating eye injuries or severe eye trauma.
 - Use caution with grinding or explosion injuries
 - Do not use if globe penetration present (parts of eye coming out, irregularity shaped pupil, vision loss, blood in iris (hyphema), non-reactive pupil, large conjunctival hemorrhage.
- F. Flush eyes with copious amounts of fluid (If chemical burn)
- G. Refusal may be obtained if:
 - Patient did not receive pepper/chemical spray directly to eye under pressure (i.e. over spray, or contaminated hands rubbing eyes)
 - No side effects from medication or complication from administration present

Notes:

1. Document patient visual acuity (have them try and read from a document) by covering one eye at a time.
2. All penetrating eye injuries will be seen in an Emergency Room (any injuries around the eye).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 8 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Fractures/Dislocations

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. Splint all extremities in obvious or suspected fracture.
- D. Apply ice packs to affected areas.
- E. EKG monitor
- F. IV/IO Normal Saline
- G. Fentanyl
 - 50 micrograms IV/IO every 5 mins.
 - SBP must be > 90 mmHg
 - 2 mcg/kg IN, max dose 50 micrograms (prefer 50 mcg/mL concentration)
- H. Morphine
 - 2.5-5 mg every 5 mins.(Max dose of 10 mg)
 - SBP must be >100 mmHg
 - Max. dose 10 mg
 - Use caution in patients > 75 y/o, < 100 lbs., HR < 50, or BBB
- I. Zofran (Following Narcotic)
 - 4 mg IV/IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 9 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Gunshot Wound

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor
- D. Rapid transport to appropriate facility
- E. IV/IO Normal Saline boluses to maintain SBP > 90 mmHg
- F. Chest decompression (if indicated)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 10 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Head Injury

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor
- D. IV/IO Normal Saline
- E. Intubate if patient unable to maintain airway or if needed for airway protection
 - Do not hyperventilate if the patient has advanced signs of intracranial bleeding (Increasing SBP and slow HR) maintain ET_{CO}2 of 30-35 mmHg.
- F. Elevate head of LSB or stretcher to approximately 30 degrees
- G. Intubation if GCS < 8

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
	Page: 11 of 14		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Inhalation of Hot Smoke and Gases

A. Oxygen and airway control

B. EKG monitor

C. IV/IO Normal Saline

D. DuoNeb

- Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
- Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
- Administer via CPAP or in-line NEB if patient is intubated

E. Sodium Bicarbonate (known acid base chemicals)

- 2 mL at a time via NEB
- reassess lung sound and contact MD 1

F. Brethine

- 0.25 mg SQ
- Give if patient has poor tidal volume

G. Solu-Medrol

- 125 mg IV/IO (slow push, flush thoroughly)

Notes:

1. Be prepared to provide airway management and ventilation early if airway shows signs of thermal injury.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 12 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

SCUBA Related Emergencies

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor/12 Lead
- D. Place patient in left lateral decubitus position (head down, feet up)
- E. IV/IO Normal Saline

Notes:

1. A helicopter may be utilized for this type of injury.
2. **ALL** barotrauma patients should be taken to the closest hospital for evaluation and transfer to an acute care facility will be arranged if needed.
3. There are no emergent barotrauma facilities in Hillsborough County. St. Joseph takes cases from 9-5 by appointment only. Florida Hospital Orlando is the closest emergent barotrauma facility.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 13 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Shock-Hypovolemic

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor/12 Lead
- D. Rapid transport to appropriate facility
- E. IV/IO Normal Saline
- F. NS Bolus
 - 20 mL/kg NS Bolus to maintain blood pressure
- G. Bleeding Control
 - Direct Pressure
 - Elevation of Extremity
 - HemCon ChitoGauze PRO (massive bleeding/above measures not sufficient)
 - Tourniquet

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Adult Trauma		Last Revision Date: September 19, 2016
			Page: 14 of 14
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Shock-Neurogenic

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor/12 Lead
- D. Rapid transport to appropriate facility
- E. IV/IO normal saline
- F. NS Bolus
 - 20 mL/kg NS Bolus to maintain blood pressure
- G. Dopamine (If patient remains hypotensive after 1500 mL of NS Bolus)
 - 10 micrograms/kg/min and titrate to maintain blood pressure
 - Total dose should not exceed 20 micrograms/kg/min

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 1 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Acute Abdomen

- A. Oxygen & airway control.
- B. EKG monitor
- C. IV/IO Normal Saline
- D. Complete a FAST Ultrasound Examination

Notes:

1. If FAST exam indicates the presence of free fluid/blood, the patient should be transported to the closest appropriate medical facility with available pediatric surgical resources.
2. Complete a FAST Exam worksheet.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 2 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Altered States of Consciousness

- A. Oxygen & airway control
- B. EKG monitor/12 Lead
- C. Glucose test strip
- D. Instaglucose (If patient conscious with BGL < 60 mg/dL)
 - 15 grams SL
 - May repeat dose 1 time
- E. IV/IO Normal Saline
- F. D10W (If BGL < 60 mg/dL and patient not able to safely take oral intake)
 - 0.1 g/kg = 1 ml IV bolus
 - Repeat every 3 to 5 minutes based on BGL and GCS
- G. Narcan
 - 0.1 mg/kg IV/IO
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)
 - If inadequate response and narcotic OD strongly suspected, dose may be repeated twice (total of 3 doses)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 3 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Anaphylaxis/Allergic Reaction

- A. Oxygen and airway control
- B. EKG monitor
- C. IV/IO Normal Saline
- D. Benadryl (If patient has generalized pruitus, urticaria, hives)
 - 1 mg/kg IV/IO/IM (slow push, flush thoroughly)
- E. Solu-Medrol
 - 2 mg/kg IV/IO (slow push, flush thoroughly)
- F. Albuterol
 - If patient wheezing or c/o dyspnea then treat per Asthma protocol
- G. Epinephrine (for severe reaction- extensive facial edema, airway compromise, hypotension)
 - 0.01 mg/kg (1:1,000) SQ
 - Dose may be repeated 1 time in 3 to 4 minutes
- H. Epinephrine (for severe reaction refractory to all other treatments)
 - 0.01 mg/kg (1:10,000) IV/IO (slow push, flush thoroughly)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 4 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Asthma

A. Oxygen and airway control

B. EKG Monitor

C. IV/IO Normal Saline

- If hydration required, 10 – 20 mL/kg over approximately 20 minutes

D. DuoNeb

- Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
- Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
- Administer via CPAP or in-line NEB if patient is intubated

E. Solu-Medrol

- 2 mg/kg IV/IO (push slow, flush thoroughly)

F. Epinephrine (for severe reaction- extensive facial edema, airway compromise, hypotension)

- 0.01 mg/kg (1:1,000) SQ
- Max. dose 0.4 mL
- Dose may be repeated 2 times at 20 minute intervals
- Use caution with severe tachycardia or hypertensive patients

G. Brethine (In pt's with a weight > 25kg with a known history)

- 0.25 mg SQ

H. Magnesium Sulfate (In pt's with a weight of > 25kg with a known history)

- 1 gram over 20 minutes IV/IO

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 5 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Bronchiolitis

A. Oxygen and airway control

B. EKG Monitor

C. IV/IO Normal Saline

- 20 mL/kg Bolus PRN

D. DuoNeb

- Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
- Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
- Administer via CPAP or in-line NEB if patient is intubated

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 6 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest (Non-traumatic)

- A. Treatment of cardiac arrest is to be provided in accordance with the current American Heart Association Standard Pediatric Advanced Cardiac Life Support Standards and Guidelines.
- B. TREAT THE PATIENT, NOT THE MONITOR
- C. Treatments listed in the algorithms on the following pages will be administered in the order in which they are written.
- D. Adequate airway (Air-Qsp, endotracheal intubation), ventilation, oxygenation, chest compressions, and defibrillation are more important than administering medications and therefore take precedence over initiating an IV line or injecting medications.
- E. When resuscitation is indicated, the patient will be treated aggressively where found, when possible.
- F. If the patient is endotracheally intubated and has ROSC, it is **HIGHLY RECOMMENDED** that a NG tube be inserted to increase tidal volume.
- G. Intraosseous insertion is needed if IV access is not able to be obtained within 90 seconds.
- H. If an IV/IO line cannot be established after repeated attempts, the endotracheal route may be used.
 - The dose of Epinephrine via ETT 0.1 mg/kg of 1:1,000
 - The dose of Epinephrine via ETT 0.01 mg/kg of 1:10,000 (neonates < 28 days)
- I. If the patient has a history of diabetes draw up 0.1 grams/kg = 1ml of D10W
 - Repeat dose every 3 to 5 minutes based on BGL and GCS
- J. If narcotic overdose is suspected, give Narcan 0.4 - 2 mg IV/IO PRN May give IM injection of same dose if unable to establish IV/IO within reasonable period of time. May give IN if no IV has been established 0.1 mg/kg, max dose of 2 mg.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 7 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest (Non-traumatic) cont.

- K. Consider Sodium Bicarbonate 1 mEq/kg if long resuscitation attempt or suspected preexisting acidosis.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 8 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest – Asystole

- A. Oxygen and airway control
- B. EKG monitor /12 Lead
- C. CPR
- D. IV/IO Normal Saline
- E. Epinephrine
 - 0.01 mg/kg (1:10,000) IV/IO
 - 0.1 mg/kg (1:1,000) ETT
 - 0.01 mg/kg (1:10,000) ETT (neonates < 28 days)
 - Repeat dose every 3 to 5 minutes
- F. Rule out treatable causes and correct problem if found:
 - Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hypo/Hyperkalemia, Hypoglycemia, Hypothermia
 - Toxins, Tamponade, Tension Pneumothorax, Thrombosis (cardiac or pulmonary), Trauma

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 9 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest – PEA

- A. Oxygen and airway control
- B. CPR
- C. EKG monitor/12 Lead
- D. IV/IO Normal Saline
- E. Rule out treatable causes and correct problem if found:
 - Hypovolemia, Hypoxia, Hydrogen Ion (acidosis),Hypo/Hyperkalemia, Hypoglycemia, Hypothermia
 - Toxins, Tamponade, Tension Pneumothorax, Thrombosis (cardiac or pulmonary), Trauma
- F. Epinephrine
 - 0.01 mg/kg (1:10,000) IV/IO
 - 0.1 mg/kg (1:1,000) ETT
 - 0.01 mg/kg (1:10,000) ETT (neonates < 28 days)
 - May repeat dose every 3 to 5 minutes

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 10 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest – Ventricular Fibrillation/Pulseless Ventricular Tachycardia

- A. Oxygen and airway control
- B. Defibrillate 1 time @ 2 J/kg
- C. Perform 5 cycles of CPR
- D. Defibrillate thereafter at 4 J/kg
- E. Routine will be drug administration followed by a 4 J/kg shock as long as the patient is in Ventricular Fibrillation/Pulseless Ventricular Tachycardia
- F. IV/IO Normal Saline (DO NOT DELAY DEFIBRILLATION)
- G. Rule out treatable causes and correct problem if found:
 - Hypovolemia, Hypoxia, Hydrogen Ion (acidosis), Hypo/Hyperkalemia, Hypoglycemia, Hypothermia
 - Toxins, Tamponade, Tension Pneumothorax, Thrombosis (cardiac or pulmonary), Trauma
- H. Epinephrine
 - 0.01 mg/kg (1:10,000) IV/IO
 - 0.1 mg/kg (1:1,000) ETT
 - 0.01 mg/kg (1:10,000) ETT (neonates < 28 days)
 - May repeat dose every 3 to 5 minutes
- I. Amiodarone
 - 5 mg/kg IV/IO
- J. Lidocaine
 - 1 mg/kg IV/IO
 - 20 – 50 micrograms/kg/minute if ROSC occurs

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 11 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Dysrhythmias – Bradycardia/Block

- A. Assess ABCs
- B. Oxygen and airway control
- C. EKG monitor/12 Lead
- D. IV/IO Normal Saline
- E. Transcutaneous Pacing
 - Set rate 100/min
- F. Epinephrine
 - 0.01 mg/kg (1:10,000) IV/IO
 - 0.1 mg/kg (1:1,000) ETT
 - 0.01 mg/kg (1:10,000) ETT (neonates < 28 days)
 - May repeat dose every 3 to 5 minutes
- G. Atropine
 - 0.02 mg/kg (minimum dose of 0.1 mg)
 - May be repeated dose 1 time (**total dose 1 mg for child and 2 mg for adolescent**)
- H. Perform chest compressions despite oxygenation and ventilation
 - Heart rate < 60/min in an infant or child

Notes:

1. Special conditions may apply in severe hypothermia.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 12 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Dysrhythmias – Supraventricular Tachycardia & Wide Complex Tachycardia

- A. Assess ABCs
- B. Oxygen and airway control
- C. EKG Monitor/12 Lead
- D. IV/IO Normal Saline
- E. Patient with adequate perfusion
 - Normal QRS Duration
 1. Consider vagal maneuvers
 2. Adenosine 0.1 mg/kg (max dose 6 mg)
 3. Adenosine 0.2 mg/kg (max dose 12 mg)
 4. Amiodarone 5 mg/kg over 20 minutes
 - Wide QRS Duration (approx. > 0.08 sec)
 1. Amiodarone 5 mg/kg over 20 minutes
- F. Patient with poor perfusion
 - Consider sedation Ativan 0.1 mg/kg IV/IO/IN max dose 1 mg
 - Synchronized Cardioversion 0.5 to 1.0 J/kg
 - Increase energy to 1 or 2 J/kg if not effective at lower energy

Notes:

1. If time permits a brief trial of medication can be given while preparing defibrillator in patients with poor perfusion.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 13 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Croup

A. Oxygen and airway control

- Utilize blow by facemask to reduce anxiety

B. EKG Monitor

C. DuoNeb (If patient is wheezing)

- Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
- Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
- Administer via CPAP or in-line NEB if patient is intubated

D. NEB Normal Saline

- 3 mL (patient has a hoarse cough)

E. IV/IO Normal Saline

- 20 mL/kg Bolus over 30 minutes

F. Solu-Medrol

- 2 mg/kg IV/IO (slow push, flush thoroughly)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 14 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Epiglottitis

- A. Oxygen and airway control
- B. Place child in sitting position and keep calm
- C. Transport immediately
- D. If warranted, ventilate and oxygenate via bag valve mask with 100% oxygen
- E. AVOID PUTTING ANYTHING IN PATIENT'S MOUTH

Notes:

1. If child occludes airway and ETT required, then 1 size smaller than normal.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 15 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Heat-Related Emergencies

Heat Cramps/Heat Exhaustion

- A. Oxygen and airway control
- B. EKG Monitor
- C. Move patient to a cool environment, prevent hypothermia
- D. Consider oral hydration with water
- E. Stretch the muscles involved
- F. IV/IO Normal Saline
 - 20 mL/kg Bolus over 30 minutes

Heat Stroke

- A. Oxygen and airway control
- B. EKG monitor
- C. Move patient to cool environment, prevent hypothermia
- D. Immediately remove clothing and cool patient with water, air conditioner and ice packs under arms, behind neck, and in groin
- E. IV/IO Normal Saline
 - 20 mL/kg Bolus over 30 minutes

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 16 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Hyperglycemia

- A. Oxygen and airway control
- B. EKG Monitor
- C. Glucose test strip
- D. Hydration
 - Consider oral hydration with water
- E. IV/IO Normal Saline
 - 20 mL/kg Bolus over 30 minutes

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
	Page: 17 of 25		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Hypoglycemia

- A. Oxygen and airway control
- B. EKG Monitor
- C. Glucose test strip
- D. Instaglucose (If patient conscious with BGL < 60 mg/dL)
 - 15 grams SL
 - May repeat dose 1 time
- E. D₁₀W (If BGL < 60 mg/dL and patient not able to safely take oral intake)
 - 0.1 g/kg = 1 ml IV bolus
 - Repeat every 3 to 5 minutes based on BGL and GCS

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 18 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Hypothermia

- A. Oxygen and airway control
- B. EKG Monitor
- C. Remove wet clothing and remove patient from cool environment
- D. Cover patient, including head, with blankets
- E. Move patient inside heated ambulance
- F. Severe Hypothermia (Core Temp < 95 degrees F and/or decrease LOC)
 - Handle patient gently (very prone to V-fib)
- G. Bradycardia
 - Patient may tolerate Bradycardia very well.
 - Heart rate may be expected to drop 10 BPM for each degree drop in body temperature
- H. Asystole
 - Perform CPR
 - Refer to Asystole Protocol
- I. Ventricular Fibrillation/Pulseless Ventricular Tachycardia
 - Defibrillate 1 time at 2 J/kg **ONLY!**

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 19 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Inhalation of Hot Smoke and Gases

- A. Oxygen and airway control
- B. EKG Monitor
- C. IV/IO Normal Saline
- D. DuoNeb (If patient wheezing and/or complaining of dyspnea)
 - Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
 - Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
 - Administer via CPAP or in-line NEB if patient is intubated
- E. Solu-Medrol
 - 2 mg/kg IV/IO (push slow, flush thoroughly)

Notes:

1. Respiratory burns need rapid aggressive intervention (i.e. intubation), prior to onset laryngeal edema.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 20 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Nausea/Vomiting

A. Oxygen and airway control

B. EKG Monitor/12 Lead

C. Glucose test strip

D. IV/IO Normal Saline

E. Zofran

- < 40 kg 0.1 mg/kg IV or IM
- > 40 kg 4 mg IV or IM

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 21 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Overdose/Oral Poisoning

TAMPA GENERAL REGIONAL POISON CONTROL CENTER (813) 844-4444

- A. Oxygen and airway control
- B. EKG monitor/12 Lead
- C. IV/IO Normal Saline

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 22 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Poisons – Inhaled or Absorbed

TAMPA GENERAL REGIONAL POISON CONTROL CENTER (813) 844-4444

Crew Safety should be FIRST Priority

- A. Oxygen and airway control
- B. EKG Monitor/12 Lead
- C. DECONTAMINATE PATIENT PRIOR TO INTERVENTIONS
- D. Avoid skin contact
- E. DuoNeb (If patient wheezing, and/or complaining of dyspnea)
 - Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
 - Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
 - Administer via CPAP or in-line NEB if patient is intubated
- F. Organophosphates
 - Flush the area of exposure with copious amounts of water
 - Atropine 0.02 mg/kg IV/IO every 5 mins. (until secretions dried)

Notes:

1. If any doubt as to toxicity or expected adverse effects:
 - **CONTACT POISON CONTROL**

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 23 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Poisonous Bites and Stings

- A. Oxygen and airway control
- B. Transport rapidly
- C. Keep patient quiet and immobilize limbs
- D. EKG Monitor
- E. Contact Poison Control:
 - ALL poisonous stings and bites
- F. If tourniquet has been placed by a layperson prior to arrival:
 - Apply a constricting band 2 inches above tourniquet
 - Remove layperson tourniquet
- G. IV/IO Normal Saline
- H. Anaphylaxis
 - Refer to Anaphylaxis protocol
- I. Ativan (seizures or muscle spasms)
 - 0.1 mg/kg IV/IO max dose of 1 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - IM injection must be given gluteal site
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 24 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Seizures

- A. Oxygen and airway control
- B. Protect patient from any further trauma
- C. EKG Monitor
- D. Glucose test strip
- E. IV/IO Normal Saline
- F. Ativan
 - 0.1 mg/kg IV/IO max dose 1 mg
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time
 - IM injection must be given gluteal site
 - 0.1 mg/kg IN, max dose 2 mg (prefer 2 mg/mL concentration)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Medical		Last Revision Date: September 29, 2016
			Page: 25 of 25
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Sickle Cell Crisis

- A. Oxygen and airway control
- B. EKG monitor
- C. IV/IO Normal Saline
- D. Morphine
 - 0.1 mg/kg IV/IO every 5 mins. (slow push, flush thoroughly)
 - SBP >100 mmHg
 - Monitor hemodynamic status closely before and after administration
- E. Zofran (Following Morphine)
 - < 40 kg 0.1 mg/kg IV or IM
 - > 40 kg 4 mg IV or IM

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 1 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Abdominal Trauma

- A. Oxygen and airway control
- B. EKG monitor
- C. IV/IO Normal Saline
- D. Hypotension is present (reference V/S chart in back of protocol book):
 - Refer to Shock protocol
- E. Complete a FAST Ultrasound Examination

Notes:

1. If the FAST exam indicates the presence of free fluid/blood in the presence of a mechanism of injury, the patient will be treated and transported as a Trauma Alert under the Paramedic Judgment provision of the UTTP and will be awarded 2 points as his/her trauma score.
2. Do not delay transport for the purpose of completing a FAST exam. This assessment can be completed during transport.
3. Complete a FAST Exam worksheet.

* Contact with TR1 is required for any positive FAST exams where Trauma Alert criteria would otherwise not have been met. This contact can be made after the call.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 2 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Burns-Thermal

- A. Stop the burning process
- B. Oxygen & airway control
- C. Remove clothing and jewelry
- D. Continuous wet sterile dressings over not more than 10% of TBSA at one time, sterile dressings or burn sheets over all other areas.
- E. Prevent loss of body heat
- F. EKG monitor
- G. IV/IO Normal Saline
- H. Morphine
 - 0.1 – 0.2 mg/kg increments IV/IO (if indicated)
 - Hold if hypotensive (refer to V/S chart)
- I. Zofran (Following Morphine)
 - 2mg IV/IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time.
- J. DuoNeb
 - Atrovent 0.5 mg mixed with Albuterol 3mg (2.5 mg equivalent) NEB
 - Max. dose of 1.5 mg Atrovent and 9 mg Albuterol (7.5 mg equivalent)
 - Administer via CPAP or in-line NEB if patient is intubated
- K. Transport to TGH Regional Burn Center if:
 - Full thickness or partial thickness (2nd degree burns) of hands, face, feet, or perineum.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
	Page: 3 of 12		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Burns-Thermal (cont.)

- 10% of TBSA of full thickness
- 15% of TBSA of partial thickness
- Respiratory involvement
- Multiple injuries
- Circumferential burns (electrical or chemical burns)
- Electrical or chemical burns

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 4 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Burns-Chemical

- A. Oxygen and airway control
- B. Brush off any remaining dry chemical
- C. Flush with copious amounts of fluid
- D. Prevent loss of body heat
- E. EKG monitor
- F. IV/IO Normal Saline
- G. Morphine
 - 0.1 – 0.2 mg/kg PRN IV/IO (if indicated)
 - Hold if hypotensive (refer to V/S chart)
- H. Fentanyl
 - 0.5-1 microgram/kg IV/IO (slow push, flush thoroughly)
 - Max dose 50 micrograms/kg IV/IO
 - Monitor hemodynamic status closely before and after administration
 - Hold if hypotensive (refer to V/S chart)
 - 2 mcg/kg IN, max dose 50 micrograms (prefer 50 mcg/mL concentration)
- I. Zofran (Following Morphine)
 - 2mg IV /IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 5 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Burns-Electrical

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor/12 Lead
- D. Dry sterile dressings over burned areas
- E. IV/IO Normal Saline
- F. Treat cardiac dysrhythmias as per protocol
- G. Fentanyl
 - 0.5-1 microgram/kg IV/IO (slow push, flush thoroughly)
 - Max dose 50 micrograms/kg IV/IO
 - Monitor hemodynamic status closely before and after administration
 - Hold if hypotensive (refer to V/S chart)
 - 2 mcg/kg IN, max dose 50 micrograms (prefer 50 mcg/mL concentration)
- H. Morphine
 - 0.1 – 0.2 mg/kg PRN IV/IO (if indicated)
 - Hold if hypotensive (refer to V/S chart)
- I. Zofran (Following Morphine)
 - 2mg IV /IO (slow push, flush thoroughly)
 - May give IM injection of same dose if unable to establish IV/IO within reasonable period of time

Notes:

1. Contaminated patients should have clothing and jewelry removed and bagged.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
	Page: 6 of 12		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Arrest

- A. Oxygen & airway control
- B. Consider spinal trauma
- C. Further treatment according to American Heart Association Basic Life Support
- D. EKG monitor/12 Lead
- E. IV/IO Normal Saline
- F. Further treatment according to the current AHA PALS standards
- G. Chest decompression (if unresponsive to initial therapy)
 - Refer to simple thoracostomy protocol

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 7 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Chest Trauma

- A. Oxygen & airway control
- B. EKG monitor/12 Lead
- C. Consider spinal trauma
- D. IV/IO Normal Saline
- E. Chest decompression (if indicated)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 8 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Drowning/Near Drowning

- A. Oxygen & airway control
- B. Consider spinal trauma (especially if unconscious)
- C. EKG monitor/12 Lead
- D. Further treatment according to current American Heart Association Basic Life Support
- E. IV/IO Normal Saline
- F. Further treatment to be in accordance with the current AHA PALS standards.

Notes:

1. Do not use Heimlich maneuver unless airway is obstructed.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 9 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Eye Injuries

- A. Oxygen and airway control
- B. Consider spinal trauma
- C. EKG monitor
- D. IV/IO Normal Saline
- E. Tetracaine
 - 1 – 2 drops of a 0.5 % Tetracaine solution (Minor eye abrasions, pepper spray/ chemical spray). Do not use with penetrating eye injuries or severe eye trauma.
 - Use caution with grinding or explosion injuries.
 - Do not use if globe penetration present (parts of eye coming out, irregularity shaped pupil, vision loss, blood in iris (hyphema), non-reactive pupil, large conjunctival hemorrhage.
- F. Flush eyes with copious amounts of fluid (If chemical burn)
- G. Guardian refusal may be obtained if:
 - Patient did not receive pepper/chemical spray directly to eye under pressure (i.e. over spray, or contaminated hands rubbing eyes)
 - No side effects from medication or complication from administration present

Notes:

1. Document patient visual acuity (have them try and read from a document) by covering one eye at a time.
2. All penetrating eye injuries will be seen in an Emergency Room (any injuries around the eye).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 10 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Fractures/Dislocations

J. Oxygen & airway control

K. Consider spinal trauma

L. Splint all extremities in obvious or suspected fracture.

M. Apply ice packs to affected areas.

N. EKG monitor

O. IV/IO Normal Saline

P. Fentanyl

- 0.5-1 microgram/kg IV/IO (slow push, flush thoroughly)
- Max dose 50 micrograms/kg IV/IO
- Monitor hemodynamic status closely before and after administration
- Hold if hypotensive (refer to V/S chart)
- 2 mcg/kg IN, max dose 50 micrograms (prefer 50 mcg/mL concentration)

Q. Morphine

- 0.1 mg/kg IV/IO every 5 mins. (slow push, flush thoroughly)
- SBP >100 mmHg
- Monitor hemodynamic status closely before and after administration
- Hold if hypotensive (refer to V/S chart)

R. Zofran (Following narcotic)

- < 40 kg 0.1 mg/kg IV or IM
- > 40 kg 4 mg IV or IM

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
	Page: 11 of 12		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Head Injury

A. Oxygen & airway control

- ET intubation should be performed on all unconscious head injured
- If the patient is intubated, then **DO NOT** hyperventilate maintain ETCO₂ of 30-35 mmHg if signs and symptoms of increasing intracranial pressure are present

B. Consider spinal trauma

C. Elevate head of LSB or stretcher to approximately 30 degrees

D. EKG monitor

E. IV/IO Normal Saline

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Pediatric Trauma		Last Revision Date: September 29, 2016
			Page: 12 of 12
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Shock

- A. Oxygen & airway control
- B. Consider spinal trauma
- C. EKG monitor
- D. IV/IO Normal Saline
- E. 20 mL/kg Normal Saline bolus



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 1 of 75

Accreditation Ref:

5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Age Category Definitions

- A. This policy provides guidance in selecting appropriate policies when it is necessary to make a differentiation between neonatal, infant, and adult patients.
- B. Definitions:
1. **Neonate** – The difference between neonates and infants, for the purposes of these protocols, is based upon age. A neonate is in a physiologic transition from mechanisms used in utero to those that are used after delivery and severance of the umbilical cord. Thus, a patient less than 28 days old will be considered a neonate (Florida state definition)
 2. **Infant** – Infants have functional differences from older children that relate to their developing physiology and their poorly developed intellect. The ability to communicate and understand is limited. This is a distinction based on age, not size. A patient less than 1 year of age will be considered an infant.
 3. **Pediatric** – The term “pediatric” is used in these protocols as a collective term, including neonates, infants, children and adolescents. Any patient less than 18 years old is considered pediatric (FL Statute definition is the chronological, anatomical, and physical characteristic of someone 15 years of age or younger), from a legal standpoint (except emancipated minor, pregnant minor or married minor). The legal standpoint must be considered in decisions about patient rights in regard to treatment refusal, choice of hospital, and other matters.
- C. For medical purposes, differences between neonates, infants and children may not appear in the protocols. Without specific notations, all these groups are treated similarly. Age in these young patients may still be an important factor in the history, influencing the probability for accidental ingestion of poisons or the occurrence of certain types of accidents.
- D. A more subtle distinction, from a medical perspective, is made between adolescents and adults. Adolescents are nearly equal physiologically to adults, apart from age and size. Most significantly, drug dosages for adults assume a body size between 50 and 200 kg (100 – 400 lbs.). From a medication dosage standpoint, pediatric patients weigh less than 50 kg (100 lbs.).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 2 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Airway Protocol

- A. Capturing and securing the airway will be the first goal in treating any patient.
- B. Any patient that has a Glasgow Coma Scale reading of less than 8 and does not have a reversible condition (diabetes, narcotic overdose, etc.) should have an endotracheal tube inserted.
- C. Airway obstruction due to a foreign body will be treated in accordance with the American Heart Association Airway Obstruction Standards.
 1. If the above technique fails to relieve the obstruction then visualize airway and extract foreign body with Magill forceps.
 2. If the obstruction remains, despite the above measures approved by the American Heart Association, attempt to force ventilations with Bag-Valve-Mask device or perform a Cricothyrotomy.
- D. Capturing or controlling the airway of the suspected cervical spine injured patient is to be performed without changing the neutral in-line positions, unless such an action is absolutely necessary. The standards from the Basic Trauma Life Support Manual will be followed on any patient with suspected spinal cord injury who is in need of airway control.
- E. The airway is to be captured/controlled as deemed appropriate by the **Engineer**. Acceptable airway interventions are:
 1. Positioning (jaw thrust, head tilt, chin lift)
 2. Nasopharyngeal Airway
 3. Oropharyngeal Airway
 4. Air-Qsp Airway (self-pressurizing)
 5. Nasotracheal Airway (ET tube)
 6. Orotracheal Airway (ET tube)
 7. King Vision Video Laryngoscope
 8. Cricothyrotomy



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 3 of 75

Accreditation Ref:

5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Air-Qsp Airway Device

The Air-Q sp (self-pressurizing) airway device should be considered on all patients after 1-2 unsuccessful endotracheal intubation attempts.

A. Indications:

1. In anticipation and unexpected difficult airway situations.
2. Establishing a clear airway in profoundly unconscious patients.

B. Contraindications:

1. Responsive patients with an intact gag reflex.
2. Patients with known esophageal disease.
3. Patients who have ingested caustic substances.

C. Precautions:

1. The Air-Q sp airway does not protect the airway from the effects of regurgitation and aspiration.
2. Do not use excessive force during Air-Q sp airway placement.
3. High airway pressure may divert gas to the stomach.
4. After placement, perform standard checks for breath sounds and utilize an appropriate carbon dioxide monitor as required by protocol.
5. The Air-Q sp airway is not intended for RE-USE.

D. Procedures:

1. Choose the correct Air-Q sp airway size.

Size	Pt. weight	Mouth Opening
4.5	70-100 kgs	25mm
3.5	50-70 kgs	23 mm
2.5	30-50 kgs	20 mm
2	17-30 kgs	17 mm
1.5	7-17 kgs	14 mm
1	4-7 kgs	11 mm
0.5	< 4 kgs	8 mm



Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
Subject: Protocol Procedures		Last Revision Date: September 29, 2016
		Page: 4 of 75
Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Air-Qsp Airway Device (cont.)

2. Pre-oxygenate the patient.
3. Open the patient's mouth and elevate the tongue.
4. Place the front portion of the Air-Q sp airway mask between the base of the tongue and the soft palate at a slight angle.
5. Pass the Air-Q sp airway into position within the pharynx by gently applying inward and downward pressure. Never force the tube into position.
6. Attach breathing circuit or resuscitator bag to the 15 mm connector of the Air-Q sp airway. While gently bagging the patient to assess ventilation, simultaneously withdraw the airway until ventilation is easy and free flowing.
7. Confirm proper position by auscultation, chest movement and verification of CO₂ by capnography.
8. Secure the Air-Q sp airway with an approved tube secure device.

E. Removal of the Air-Q sp airway:

1. Air-Q sp airway removal should always be carried out in an area where suction equipment and the ability for rapid intubations are present.

Notes:

1. If the Air-Q airway is in place and the patient is being oxygenated and ventilated well then do not place an ETT through the Air-Q airway. Use the Air-Q airway and transport to the ED.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 5 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Automated External Defibrillator (AED)

- A. Confirm cardiac arrest by performing ABC's
- B. **Power on** AED first
- C. **Attach** AED electrode pads
- D. Press the **analyze** button on the AED and make sure everyone is clear of the patient.
- E. **Shock** as advised by the AED. (Remember to clear patient prior to delivery shock).
- F. After 1 shock perform 2 minutes of CPR and then check for pulse:
 1. If no pulse continue cycles of CPR and defibrillation.
 2. If pulse present, **evaluate breathing** and provide rescue breathing as needed. Monitor vital signs of patient every 30 to 60 seconds to ensure circulation remains present.
- G. After 1 shock and CPR in progress insert KING AIRWAY.

Notes:

1. AEDs are contraindicated in patients < 1 year of age.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 6 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Automatic Implantable Cardioverter/Defibrillators

A. Overview

1. Devices take 2 to 5 seconds to recognize rhythm.
2. Devices take 2 to 10 seconds to charge.
3. Energy delivered is from 25 to 30 joules.
4. Up to 5 shocks may be delivered before device resets
5. Touching the patient when defibrillator fires may cause a mild shock to the paramedic, although there is no danger of the rescuers cardiac rhythm being affected.
6. Always check patients pulse after each defibrillation.

B. Defibrillation of a patient with an AICD

1. Place paddles/patches in standard position, but not over the device itself.
2. Use the standard energy settings; do **NOT** alter the energy setting because of the implanted defibrillator.

Notes:

1. If repetitive shocks are ineffective, AHA recommends changing paddle placement (placement may be over AICD defibrillator patches on the myocardium).



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:
March 21, 2005

Last Revision Date:
September 29, 2016

Page: 7 of 75

Accreditation Ref:
5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Baker Act

- A. The Baker Act (Chapter 394 – Mental Health) relates to the authorization of police, physicians and the courts dictating certain medical treatments for persons who pose a threat to themselves or others. The purpose of this protocol is to describe the Act and how it relates to Temple Terrace Fire Department.

Special Note: The information presented in this protocol is selected information from Florida Statutes, Chapter 394. Any additional questions to legal reference(s) made in your management of patient care should be through MD 1 contact. Additional information about this law should be researched using Florida Statutes or legal counsel.

B. Chapter 394 – Mental Health

1. 394.463 Involuntary Examination

- a) Criteria: A person may be taken to a **receiving facility** for involuntary examination if there is reason to believe he or she is mentally ill and because of his or her mental illness:
- i) The person has refused voluntary examination after conscientious explanation and disclosure of the purpose of the examination –or-
 - ii) The person is unable to determine for himself or herself whether examination is necessary, -and-
 - iii) Without care or treatment, the person is likely to suffer from neglect or refuse to care for himself or herself, such neglect or refusal poses a real and present threat of substantial harm to his or her well-being; and it is not apparent that such harm may be avoided through the help of willing family members or friends or the provision of other services; or
 - iv) There is a substantial likelihood that without care or treatment the person will cause serious bodily harm to himself

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 8 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Baker Act (cont.)

or herself or others in the near future, as evidenced by recent behavior.

b) Involuntary Examination

- i) Initiation of involuntary examination – An involuntary examination may be initiated by any one of the following means:
 - a) A court may enter an ex parte order stating that a person appears to meet the criteria for involuntary examination, giving the findings on which that conclusion is based. The ex parte order for involuntary examination must be based on sworn testimony, written or oral. If other less restrictive means are not available such as voluntary appearance for outpatient evaluation, a law enforcement officer, or other designated agent of the court, shall take the person to the nearest receiving facility for involuntary examination. The order of the court shall be made a part of the patient's clinical record. No fee shall be charged for the filing of an order under this subsection. Any receiving facility accepting the patient based on this order must send a copy of the order to the agency for Health Care Administration on the next working day. The order shall be valid only until executed, for the period specified in the order itself. If no time limit is specified in the order, the order shall be valid from 7 days after the date the order was signed.
 - b) A law enforcement officer shall take a person who appears to meet the criteria for involuntary examination into custody and deliver the person or have him or her delivered to the nearest receiving facility for examination. The officer shall execute a written report detailing the circumstances under which the person was taken into custody, and the report shall be made a part of the patient's clinical record. Any receiving facility accepting the patient based on this report must send a copy of the report to the Agency for Health Care Administration on the next working day.



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 9 of 75

Accreditation Ref:

5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Baker Act (cont.)

- c) A physician, clinical psychologist, psychiatric nurse, or clinical social worker may execute a certificate stating that he or she has examined a person within the preceding 48 hours and finds that the person appears to meet the criteria for involuntary examination (stating the observations upon which that conclusion is based). A law enforcement officer shall take the person named in the certificate into custody and deliver him or her to the nearest available receiving facility for involuntary examination. The law enforcement officer shall execute a written report detailing the circumstances under which the person was taken into custody. The report and certificate shall be made a part of the patient's clinical record. Any receiving facility accepting the patient based on this report must send a copy of the report to the Agency for Health Care Administration on the next working day.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 10 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Blood Sample Protocol

- A. The Engineer will determine when it is appropriate to draw blood in the pre-hospital care environment. A blood draw should be performed in the following situations:

- B. Source patient when city employee has a significant exposure:
 1. Source consent must be obtained.
 2. If source patient is unresponsive – consent is implied.
 3. *** If Source refuses sample contact the Chief on Call or TR1.**

- C. When requested by Law enforcement as part of investigation:
 1. PD will provide kit to be used for blood draw. Directions in kit must be strictly followed.
 2. Blood draw must occur in secure environment (i.e., back of rescue unit with doors closed or inside fire station) and be witnessed by law enforcement officer.
 3. TTFD paramedics **will not delay** transport of **critical or potentially critical** patients to draw blood for law enforcement.



Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
Subject: Protocol Procedures		Last Revision Date: September 29, 2016
		Page: 11 of 75
Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Blood Pressure Machines

- A. The DINAMAP system is a useful tool to evaluate patient vital signs. All paramedics should be proficient in the operation of this device. If a question should arise about the operation of this device, it should be referenced in the DINAMAP ProCare Monitor operation manual.
- B. This device is only employed as a supportive measure. It should not be used as a diagnostic tool. If the B/P reading on the machine does not seem to coincide with the patient, a manual B/P should be taken.
- C. All critical patients should have at least one manual B/P taken upon initial assessment to get an accurate baseline.
- D. This device should be utilized on all patients who are receiving Tridil. This will ensure that a B/P is taken every 5 minutes prior to increasing the Tridil infusion.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 12 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Capnography

A. Capnography can rapidly identify a variety of subtle pathological disturbances of metabolic, cerebral vascular, and respiratory systems making it truly the *ventilation vital sign*. Capnography is useful in the following circumstances:

1. To verify and provide evidence of the correct placement of the endotracheal tube. This is especially helpful in a noisy environment.
2. To assure continual tracheal intubation placement during transport and transfer of the patient to the emergency department staff.
3. To detect malignant hyperthermia in an intubated overdose patient ingesting hypermetabolic agents such as cocaine, amphetamines, or ecstasy. (The earliest findings are an increased production of carbon dioxide and signs of increased sympathetic nervous system activity).
4. To assess the effectiveness of Cardiopulmonary Resuscitation (CPR).
5. Monitor to provide adequate ventilation in the sedated intubated patient.
6. Monitor ventilation of the intubated patient suffering from a closed head injury.
7. In the non-intubated patient, to assist in the distinction between various clinical field impressions, such as congestive heart failure vs. exacerbation of bronchospasm, to detect patients who may require intubation for aggressive ventilatory support, to otherwise assist in patient assessment, and to follow effectiveness of medical therapy.

B. Capnography use for Sudden Cardiac Arrest:

1. Open the CO2 tubing connector door and connect the appropriate CO2 filter line tubing by turning the tubing clockwise. The tubing should be attached to the LifePak 12/15 first and then to the patient.
2. Press the “on” button and adjust the contrast if necessary.
3. Verify that the EtCO2 monitor display is on including the presence of waveform and numeric values.
4. The CO2 waveform will display in channel 2 or 3.
5. After auscultation and adequate chest rise, confirm ET tube placement using customary methods. Once confirmed place the manufacturer’s ET

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 13 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Capnography (cont.)

6. tube adaptor in place and deliver 3-6 ventilations. Levels of CO₂ should confirm proper tube placement by continual presence of CO₂ in the sample gas. (Capnography is to be used with the King Airway.)
7. CO₂ will not be detected if the esophagus has been intubated. Confirmation of ET tube placement by capnography is to be supplemented with pulmonary auscultation by stethoscope.
8. Once Capnography has been started it is to remain in place until the patient is on the ED bed. This will provide continuous monitoring of the endotracheal tube during any patient movements, loading, transport and unloading.
9. Initial CO₂ levels in the cardiac arrest patient may be very low due to a decrease in metabolism and circulation. If CO₂ levels do not increase during CPR, reassess for effective chest compressions, proper ventilation rate and appropriate time intervals of epinephrine administration.
10. A sudden drop in End tidal CO₂ levels during cardiac arrest could be caused by a dislodged or kinked endotracheal tube, tension pneumothorax, inadequate chest compressions or inadequate ventilations.
11. In the event the patient has return of systemic circulation (ROSC) apply pulse oximetry.
12. Throughout an incident using ETCO₂, documentation on the “Code Summary” only occurs when the print button is pressed. ETCO₂ is to be documented for all significant events (i.e. Initial intubation, patient movement, before transfer to the ED stretcher, etc.) and periodically during a call.
13. At the completion of the call a “Code Summary” report should be attached to the patient care report for archival and quality assurance purposes.

C. Capnography use for intubated Medical and/or Trauma patient:

1. Use in combination with pulse oximetry to confirm appropriate ventilation and oxygenation.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 14 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Capnography (cont.)

2. Medical Consultation should be consulted early in all situations where readings are life threatening and where improvement has not been achieved with current interventions.
3. The capnography can alert the clinician to critical changes in the medical/trauma patient's condition. These would include:
 - A rapid decrease in End tidal CO₂ values could indicate the onset of cardiac arrest, sudden hypotension, pulmonary embolus, kinking or dislodgement of the ET tube, tension pneumothorax, or inadequate ventilation.
 - An increase in CO₂ production could indicate an overdose of hallucinogenic amphetamines such as ecstasy or other hypermetabolic agents such as cocaine. These drugs may lead to an increase in muscle metabolism, which causes an increase in CO₂ production and ultimately leading to a rise in body temperature – malignant hyperthermia.
 - Tiring accessory respiratory muscles, changes in level of consciousness or sedation secondary to overdose or therapeutic treatment will result in respiratory depression/hypoventilation ultimately leading to an increase in CO₂ levels.
 - Can provide the clinician some indication if the current treatment is effective by showing if CO₂ values are remaining in or returning to normal ranges.
 - A decrease in CO₂ readings can provide some indication of low cardiac output (CHF), hypovolemia or pulmonary embolism because the delivery of CO₂ to the alveoli and measurement on the capnograph depends on adequate blood flow through the pulmonary vasculature.
4. For the intubated head trauma patient that shows signs of severe increase in intracranial pressure, appropriate hyperventilation can be achieved through capnography with a goal of 30 - 35 mmHg (asymmetrical pupils, GCS dropping more than 5 points, extensor or flexor posturing).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 15 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Capnography (cont.)

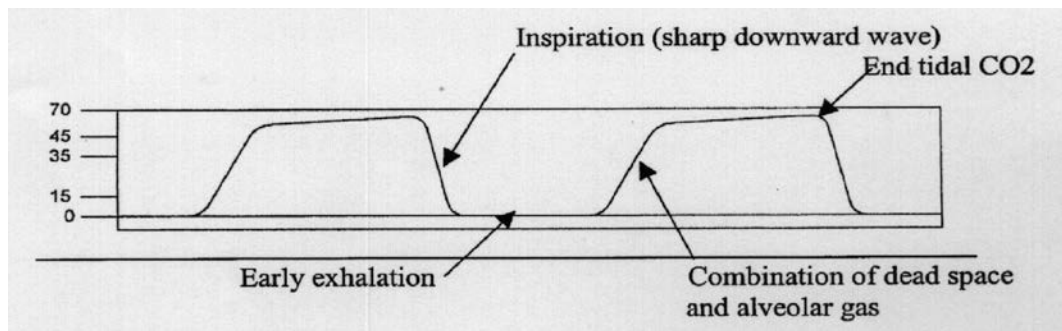
D. Capnography for Non-intubated Patients:

1. Capnography cannulas are NOT oxygen-delivery capable, so supplemental oxygen must be supplied via cannula, face mask, or BVM, as appropriate.
2. Capnography is NOT to be used on all patients requiring oxygen or for patients in minimal distress. It is indicated for assistance in differentiating between different clinical field impressions, diagnosis of hypo- or hyper-ventilation states, monitoring of controlled ventilations, and monitoring of clinical response to therapy. Specific indications include:
 - Patients with grossly abnormal respiratory rate and/or work of breathing.
 - Room air SpO₂ of < 94%.
 - Other respiratory complaints ALONG WITH altered mental status, chest pain, dizziness, palpitations or other neurological complaints.
 - Situations in which capnography may change therapy or evaluation, such as suspected hyperventilation or difficulty differentiating between CHF and bronchospasm.
 - Monitoring of non-intubated deeply sedated or altered mental status patients for the purposes of determining appropriate BVM rates for intracranial pressure management or for assistance in determination of need for intubation.
 - Monitoring of non-intubated head or chest injury patients for the purpose of determining appropriate BVM rates for intracranial pressure management or for assistance in determination of need for intubation.
3. Apply the cannula in the same manner as an oxygen-delivering cannula. It may be used along with an oxygen cannula, face mask, or BVM.
4. Throughout an incident using ETCO₂, documentation on the “Code Summary” only occurs when the print button is pressed. Documentation of ETCO₂ is to include waveform and numeric values.
5. Record initial and subsequent readings on the PCR with the other vital signs. Evaluation of values may be particularly valuable at the time of any change in patient condition and following clinical interventions.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 16 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Capnography (cont.)

E. The capnogram can be divided into four (4) phases:



1. Phase I: start of inspiration.
2. Phase II: rapid increase in CO₂ as the alveoli begin to empty.
3. Phase III: (alveolar plateau) is when the alveoli empty.
4. Phase IV: inspiration starts and the waveform returns to zero.

F. When CO₂ is not detected, three factors must be quickly evaluated by the field clinician for possible causes:

1. Loss of airway due to apnea or due to improper placement of the endotracheal tube.
2. Loss of circulatory function as a result of cardiac arrest, exsanguination and/or massive pulmonary embolism.
3. Equipment malfunction, extubation of the endotracheal tube or tube obstruction.

G. Factors Affecting Accuracy:

1. Moisture and secretions entering and clogging the breathing circuit can interrupt monitoring and can cause inaccurate measurements.
2. The CO₂ sensors are cross sensitive to anesthetic gases.
3. The added weight of the adapter on the endotracheal tube can cause kinking and extended extubation.



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 17 of 75

Accreditation Ref:

5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

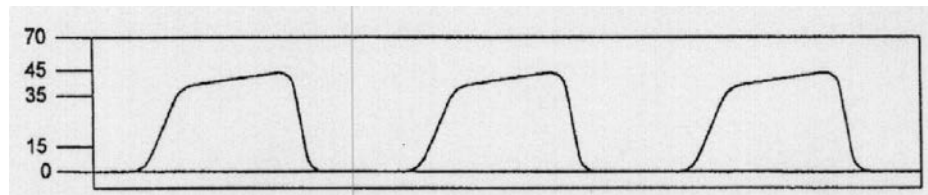
Capnography (cont.)

H. Three Common Causes Affecting CO₂ Excretion:

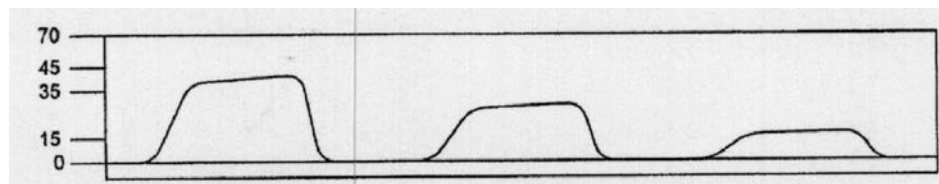
1. Decreased metabolic rate (sedation, hypothermia, and death) = decreased CO₂ blood levels = decreased ET CO₂ readings.
2. Increased metabolic rate (exercise, fever, shivering, sympathomimetic drugs) = increased CO₂ blood levels = increased ET CO₂ readings.
3. Decreased blood flow (inadequate chest compressions, shock, hypovolemia, tension pneumothorax, pulmonary embolism, cardiac arrest) = decreased CO₂ delivery to the lungs = decreased ET CO₂ readings.

I. Examples of the Capnography Waveforms:

1. Normal wave form @ 35-45 mmHg:



2. Cardiac Arrest with Pulmonary Emboli:





Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 18 of 75

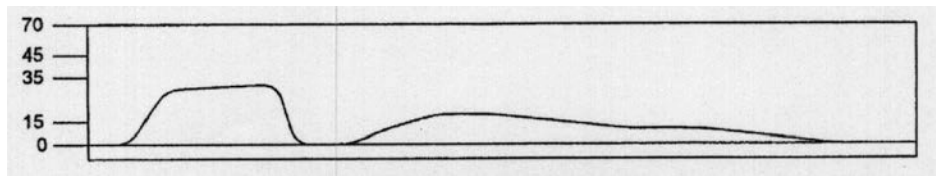
Accreditation Ref:

5G.5

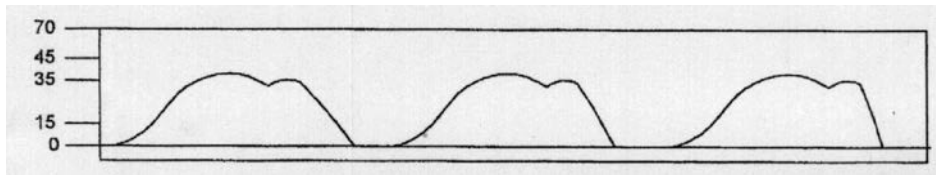
Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Capnography (cont.)

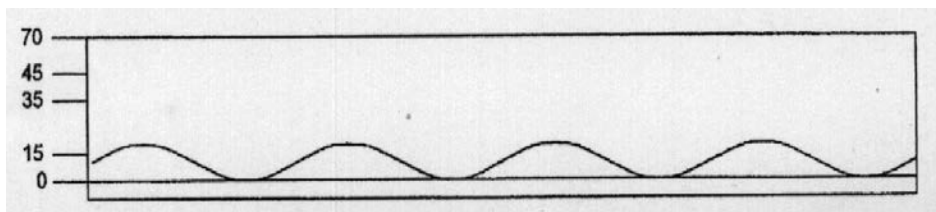
3. Disconnect or Missed Placed Endotracheal Tube:



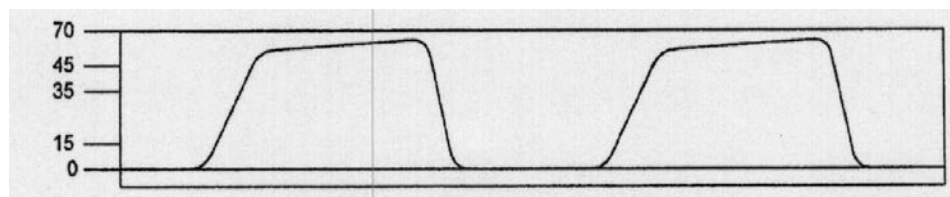
4. Inadequate Seal around the Endotracheal Tube:



5. Kinked Endotracheal Tube, Partial Airway Obstruction or Bronchospasm:



6. Hypoventilation:

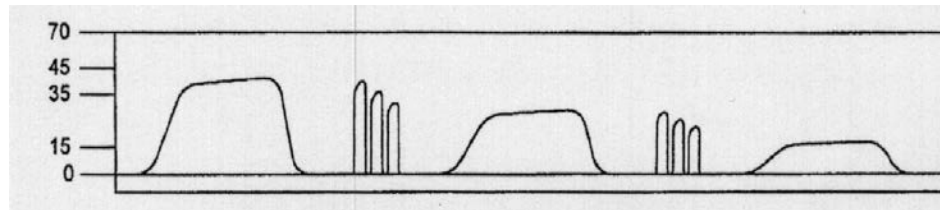




Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
Subject: Protocol Procedures		Last Revision Date: September 29, 2016
		Page: 19 of 75
Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Capnography (cont.)

7. Hyperventilation:



	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 20 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardiac Pacing

- A. This protocol assumes that airway maintenance and an appropriate level of patient monitoring are continued throughout the pacing procedure.
- B. This procedure will only be performed when all of the following criteria have been met:
1. Airway management and the need for CPR have been appropriately addressed.
 2. Patient is hemodynamically unstable.
 3. No response from oxygen therapy.

C. Procedure:

1. Turn the Lifepak POWER switch to a power source.
2. Connect EKG electrodes to the EKG cable and apply to patient. In order to minimize artifact, apply electrodes to appropriate areas on the patient's torso.
3. Select the lead (I, II, or III) that demonstrates the most prominent R wave with a minimum of electrical noise and motion artifact.

(The Lifepak monitors the intrinsic EKG rhythm and inhibits the pacing stimulus when the patient's native rate is greater than that set on the machine. If the EKG leads are detached, or if the machine cannot sense a QRS complex, it proceeds to pace in asynchronous mode without regard for the patient's native rhythm. In some cases this may lead to R-on-T phenomenon).

4. Connect the pacing cable to the pace connector on the side of the Lifepak.
5. Connect the pacing electrodes to the pacing cable, and position the pacing electrodes on the patient.
6. The patient's skin should be clean and dry.
7. Do not use alcohol or Betadine to prepare the skin, as they may cause arching and increased patient discomfort when pacing is commenced.
8. Preferred placement position (anterior-posterior) should be used.
9. Remove the protective liner from the electrode.
10. Place the black anterior (-) electrode on the left anterior torso, halfway between the xiphoid process and the left nipple at the apex of the heart.
11. Firmly press electrode center and edges onto the torso for proper adherence.



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:
March 21, 2005

Last Revision Date:
September 29, 2016

Page: 21 of 75

Accreditation Ref:
5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Cardiac Pacing (cont.)

12. The upper edge of the electrode should be below the nipple.
13. Avoid placement over nipple, sternum, or diaphragm if possible as placement over these sites lessens the effectiveness of pacing and increases patient discomfort.
14. Place the red (+) electrode on the left posterior torso beneath the scapula and lateral to the spine at the level of the heart.
15. Firmly press the electrode center and edges on to the torso for proper adherence.
16. Avoid placement over a bony prominence such as the scapula or spine, as placement over these sites lessens the effectiveness of pacing.

D. Special placement situations:

1. On patients with large breasts it may be necessary to position the black anterior (-) electrode slightly more medial.
2. In very obese patients you should attempt to place the electrodes on a flat area of skin if possible.
3. If fatty rolls preclude good adherence, spread the tissue apart.
4. Use pediatric pacing pads when appropriate.

E. Adult Rate and Capture:

- Start rate at 60 BPM
- Increase amperage until electrical capture is obtained
- Verify mechanical capture by checking pulse

F. Pediatric Rate and Capture:

- Start rate at 100 BPM
- Increase amperage until electrical capture is obtained
- Verify mechanical capture by checking pulse

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 22 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Chest Decompression

- A. Below is a guide to the ideal technique. Although some steps may have to be curtailed under truly critical circumstances, these steps should be followed whenever possible. In particular, sterile technique may affect the patient's survival chances.
- B. Procedure:
1. The puncture site will be the second intercostal space at the mid-clavicular line, or 5th intercostal space at the mid-axillary line. For pediatric patients, only the mid-clavicular site shall be used.
 2. Don gloves, sterile is possible.
 3. Have a partner (if available) prep site: Clean if necessary with sterile water or alcohol. Using Povidone-Iodine swab in expanding circular motion to cover an area about 4-6 inches wide. Using the Povidone-Iodine, repeat procedure.
 4. Insert the needle/catheter at the top of the rib (remembering that the artery and nerve run along the bottom edge). Avoid Z-tracking, which may pinch and collapse catheter.
 5. Advance needle/catheter carefully; a "pop" and/or rush of air indicates entry into pleural space filled with air under tension. Advance slightly.
 6. Remove needle from catheter.
 7. If first tap is unsuccessful, or if ventilation becomes more difficult and signs and/or symptoms of a tension pneumothorax reappear (indicating clogged or pinched catheter), consider inserting a second catheter at a different site.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 23 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

CPAP (Continuous Positive Airway Pressure)

A. Indications for CPAP:

1. Acute/Chronic CHF
2. COPD/Asthma

B. Signs and Symptoms:

1. Apprehension/Orthopnea
2. Jugular vein distention
3. Respiratory distress
4. Pink, frothy sputum
5. Peripheral edema
6. Diaphoresis
7. Hypertension

C. Inclusion Criteria (2 or more of the following):

1. Respiratory Distress
2. Retractions of accessory muscles
3. Pulmonary Edema
4. Respiratory Rate > 25/min.
5. SpO2 < 95%

D. Exclusion Criteria:

1. Be at less than 18 years of age
2. Respiratory/Cardiac Arrest
3. Need for Advanced Airway Management
4. Unresponsive to Speech
5. SBP < 90mmHg
6. Inability to maintain patent airway
7. Pneumothorax
8. Major trauma, facial burns
9. Vomiting or Active Upper GI Bleed
10. Gastric distention

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 24 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

CPAP (Continuous Positive Airway Pressure) (cont.)

E. CPAP is immediately discontinued if:

1. An immediate need for advanced airway control arises
2. The patient becomes hemodynamically unstable
3. The patient cannot tolerate the mask due to pain or discomfort

F. Procedure:

1. Set-up CPAP mask as per supplied kit
2. Select appropriate PEEP per O2 flow rate:
 - 10 cmH2O (CHF)- May start at 5 or 15 cm/H2O (patient's size)
 - 5 cmH2O (COPD/Asthma)
3. Have O2 flowing prior to applying mask to patient's face
4. Apply mask to patient's face and secure straps
5. Monitor closely for sudden changes in patient's condition
6. Refer to Anxiety protocol if patient is anxious and SpO2 > 90%.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 25 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cricothyrotomy

- A. This procedure will only be done by individuals thoroughly trained in the technique and certified by the Temple Terrace Fire Department Medical Director.
 - B. This procedure can be performed if the following criteria are met:
 1. Severe/disfiguring trauma to the face or neck is present.
 2. You cannot ventilate using a conventional ALS airway technique (oral or nasal ET intubation or Air-Qsp Airway).
 3. The opinion of the Engineer is that this procedure is warranted for lifesaving purposes.
 - C. Technique for Cricothyrotomy (Quick-Trach)
 1. Identify the cricothyroid membrane between the cricoid and thyroid cartilages.
 2. Firmly hold the device and puncture the cricothyroid ligament at a 90-degree angle.
 3. Check position by aspirating air through the syringe.
 4. Change direction to 60 degrees and advance to the level of the stopper.
 5. Remove the stopper.
 6. Thread the remaining part of the catheter into the trachea without advancing the needle.
 7. Attached 15mm ETT adapter to catheter.
 8. Secure the airway catheter in place with the cloth tracheostomy tape strip in a standard fashion.
 9. Attach BVM to airway device via 15mm ETT adapter.
 10. Ventilate patient and confirm proper placement.
- * Contacting TR1 is mandatory after employing this procedure.**

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 26 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cyanokit

FORMS: Gas (hydrogen cyanide), liquid (solutions of cyanide salts), and solids (cyanide salts). Hydrogen cyanide gas may be formed when acid is added to a cyanide salt or a nitrile, or as a product of combustion of burning plastics, wool and other synthetic products.

ROUTES OF EXPOSURE: Skin and eye, inhalation, ingestion

SIGNS AND SYMPTOMS:

Cardiovascular: At first, pulse decreases and BP rises. At later stages, arrhythmias and cardiovascular collapse may occur. Palpitations and tightness of the chest may be felt.

Respiratory: Can cause immediate respiratory arrest. Initially, respiratory rate and depth are increased; at later stages respirations become slow and gasping. Signs of pulmonary edema may be present.

CNS: Can cause immediate coma. Early symptoms can include weakness, headache, and confusion. Seizures are common.

Gastrointestinal: Nausea, vomiting and salivation.

Eye: Chemical conjunctivitis.

Skin: Dermatitis and, in some cases, ulcers. Pale or reddish color skin may also be seen.

Other: Can be rapidly fatal without early symptoms. Smaller doses may have a delayed onset of symptoms

Procedure: Set-up:

1. Reconstitute:
 - Add 100mL of Normal Saline to CynoKit vial
2. Mix:
 - Rock and rotate bottle approximately 30 seconds
 - Do not shake bottle
 - Liquid will turn blue/red color
3. Infuse:
 - Use vented IV tubing (supplied in CynoKit box)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 27 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Endotracheal Drug Administration

- A. In critical situations requiring pharmacological intervention, intravenous access may be difficult to achieve. Endotracheal drug administration is made possible by the large absorptive surface of the distal bronchial tree and the proximity of capillary beds to that area. Absorption is not as effective in the proximal bronchial tree; therefore consideration must be given to methods that deliver the drug most distally. Because endotracheal intubation is one of the first interventions in critically ill patients, the endotracheal route of drug delivery is often available long before venous access is obtained. There are no contraindications to the use of endotracheal drug administration; however, this route should only be used if the IV/IO route is not available.
- B. Drugs available for endotracheal use:
"LEAN"
1. Lidocaine
 2. Epinephrine
 3. Atropine
 4. Narcan
- C. Method of administration:
1. Dilute desired drug dose to the volume designated below with sterile water or normal saline.
 - Adult: 5 to 10 mL
 - Child: 5 mL
 - Infant 1 to 2 mL
 2. Inject the solution into the endotracheal tube, as deeply as possible. If CPR is in progress, stop chest compressions during injection.
 3. Follow injection with 3 - 5 bagged breaths to further disperse drug distally in the bronchial tree.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 28 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Endotracheal Drug Administration (cont.)

D. Precautions:

1. Only the drugs listed should be given via the endotracheal tube. Other medications may not be absorbed adequately or may actually damage the pulmonary mucosa.
2. Blood, emesis, or secretions in the airway may impair delivery and absorption of the drug. The patient should be suctioned prior to drug administration if needed.
3. Care should be taken, especially in pediatric patients, not to bag the patient too vigorously when dispersing the medication. Such bagging may result in barotrauma-related complications such as a pneumothorax.



Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
Subject: Protocol Procedures		Last Revision Date: September 29, 2016
		Page: 29 of 75
Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Endotracheal Tube Confirmation

A. It is important to verify and document the placement of endotracheal tubes. The techniques for verifying tube placement will be as follows:

1. Proceed with orotracheal intubation. This protocol assumes that most intubations will be done using direct laryngoscopy. Use of other intubation techniques will require some direct modification of this procedure, but the basic steps and principles will still be applicable.
2. Advance the tube until the cuff is approximately 3 cm past the vocal cords (for adults).
3. Ideally, the tip of the tube should be positioned halfway between the vocal cords and the carina. In an average size adult, inserting until the front teeth are even with the 21-mm mark on the tube will usually assure that the tip is above the carina.
4. Attach the Capnography adapter to the ET Tube. Initial readings during sudden cardiac arrest (SCA) will be near “0”, however, as effective CPR continues, these readings should gradually rise to a range between 10-20 Et CO₂, indicating proper tube placement. A sudden drop to “0” indicates the tube is suspicious and probably no longer in the trachea. The endotracheal tube placement should be reevaluated and extubated if determined to be misplaced. Pay particular attention to the waveform during any patient movement or condition change listed within this protocol. Confirm final tube placement prior to patient being transferred from Rescue stretcher to the hospital or aeromedical stretcher.
5. Resume ventilation and confirm placement by listening for epigastric sounds first. If epigastric sounds are absent, check bilateral lung sounds.

B. Auscultation - listen to the following sites:



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 30 of 75

Accreditation Ref:

5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Endotracheal Tube Confirmation (cont.)

1. Epigastrium (listen for gurgling as an indication of esophageal intubation. However, some transmitted breath sounds may be heard from this location with proper insertion)
 2. Left axilla
 3. Right axilla
 4. Right anterior chest (in the area of the 2nd or 3rd intercostal space)
 5. Left anterior chest (in the area of the 2nd or 3rd intercostal space)
 6. Sternal notch
- C. Indications of tracheal placement:
1. Visualization of tube passage between the vocal cords during insertion (best method).
 2. Anterior displacement of the laryngeal prominence.
 3. Capnography readings.
 4. Coughing through the tube.
 5. Chest Wall Movement - During the auscultation checks look for symmetrical expansion of the chest wall during inspiration. Some lesser degree of abdominal movement may occur with proper insertion as the inflating of lungs push down on the diaphragm.
 6. Loss of Phonation - During the auscultation checks (if the patient is awake or capable of making vocal noises) listen to assure that the patient cannot talk or make any vocal sounds.
 7. Cuff Inflation - When these initial placement checks have confirmed tracheal insertion to an appropriate depth, inflate the cuff with sufficient air to prevent escape of air around the tube. Be particularly careful to use enough air volume when using a high volume/low pressure cuff. Avoid arbitrary use of a set amount of air to prevent this error. It is helpful to note how much air was required to inflate the cuff in the preparation stages when also checking for cuff leaks.



Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
Subject: Protocol Procedures		Last Revision Date: September 29, 2016
		Page: 31 of 75
Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Endotracheal Tube Anchoring

- A. Use commercial devices for securing endotracheal tubes, in compliance with the manufacturer's instructions. Only use such devices that are supplied by Temple Terrace Fire Department. Use of such devices that have not been authorized by the Medical Director is prohibited.
- B. On those occasions where such devices are not available or do not fit the patient or circumstances, the tube should be well secured with tape:
 - 1. The tape should wrap around the tube as close to the mouth as possible.
 - 2. Then wrap the tape completely around the back of the neck (if possible without disturbing the cervical spine in cases where that is a concern)
- C. Use of a bite block device (e.g. oropharyngeal airway or bite stick) is recommended to prevent the patient from biting and thereby occluding the tube, unless the commercial device has such features built into its design.
- D. **Use of a cervical restriction device (and cervical collar) is recommended in conjunction with endotracheal tubes to reduce head movement and thereby reduce the potential for dislodging the tube.**
- E. Document what methods and device(s) were used to secure the endotracheal tube.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 32 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

EZ-IO

A. Indications:

1. Immediate vascular access in emergencies.
2. Intravenous fluids or medications are urgently needed and a peripheral IV cannot be established in 2 attempts or 90 seconds AND the patient exhibits one or more of the following:
 - An altered mental status (GCS of 8 or less)
 - Respiratory compromise (SpO2 90% after appropriate oxygen therapy, respiratory rate <10 or >40 min)
 - Hemodynamic instability (Systolic BP of <90)
3. Consider EZ-IO insertion after 2 peripheral IV attempts in the following situations:
 - Cardiac arrest (medical or trauma)
 - Profound hypovolemia with alteration of mental status
 - Patient requiring immediate delivery of medications and or fluids

B. Contraindications:

1. Fracture of the bone selected for the IO infusion (consider alternate site)
2. Excessive tissue at the insertion site with the absence of anatomical landmarks (considers alternate sites)
3. Previous significant orthopedic procedures (IO within 24 hours, prosthesis-consider alternate tibia)
4. Infection at the site selected for insertion (consider alternate site)

C. Considerations:

1. Due to the anatomy of the IO space, flow rates may appear to be slower than those achieved with an IV catheter.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 33 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

EZ-IO (cont.)

2. Ensure the administration of an appropriate rapid SYRINGE BOLUS (flush) prior to infusion NO FLUSH = NO FLOW
 - Rapid syringe bolus (flush) the EZ-IO AD & LD with 10 mL of normal saline
 - Rapid syringe bolus (flush) the EZ-IO PD with 5 mL of normal saline
 - Repeat syringe bolus (flush) as needed
3. To improve continuous infusion flow rates always use a syringe, pressure bag or infusion pump (*pressure bag for adults only*)
4. Prior to IO syringe bolus (flush) or continuous infusion in conscious patients, slowly administer Lidocaine 2% (Preservative Free) through the EZ-IO catheter. Ensure that the patient has no allergies or sensitivity to Lidocaine.
 - EZ-IO AD Slowly administer 20-40 mg Lidocaine 2%
 - EZ-IO PD Slowly administer 0.5 mg/kg Lidocaine 2%
 - EZ-IO LD Slowly administer 0.5 mg/kg Lidocaine 2%

D. Precautions:

1. The EZ-IO is not intended for prophylactic use.

E. Procedure:

1. Select the appropriate size of IO needle for patient:
 - EZ-IO AD (40kg and over)
 - EZ-IO PD (3-39kg)
 - EZ-IO LD (excessive tissue or larger patients)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 34 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

EZ-IO (cont.)

2. Locate appropriate insertion site (Proximal/Distal Tibia or Proximal Humerus). For EZ-IO LD use proximal tibia only.
3. Prepare insertion site using aseptic technique.
4. Prepare the EZ-IO driver and appropriate needle set.
5. Stabilize site and insert appropriate needle set.
6. Ensure at least 5 mm of catheter are visible (black line indicator).
7. Remove EZ-IO driver from needle set while stabilizing catheter.
8. Remove stylet from the catheter and secure the stylet in a sharps container.
9. Confirm correct IO needle placement.
10. Connect primed 3 way stop cock to IO needle catheter.
11. If patient is conscious, administer appropriate dose of Lidocaine 2% IO.
12. Syringe bolus (flush) the EZ-IO catheter with Normal Saline.
13. Start infusion using an infusion pump or pressure bag
 - pressure bag only for adult patients.
14. Secure IO site with stabilizer and apply wristband as directed.
15. Monitor EZ-IO site and patient's condition.
 - Remove catheter within 24 hours.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 35 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

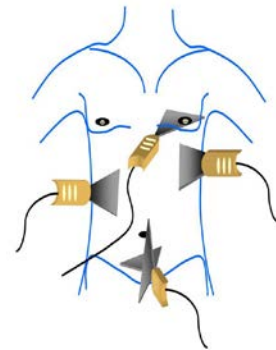
Focused Assessment with Sonography for Trauma (F.A.S.T.) Exam

A. Complete the following steps to perform the F.A.S.T. exam:

1. Expose the patient's abdomen
2. Apply conductive gel liberally
3. Turn on the sonogram machine. (allow 7 to 10 sec. for warm-up)
4. Press the [PATIENT] button.
5. Enter the requested data.
6. Click on the [MORE] button.
7. Enter your User ID. (Same as your number in FireRMS System.)
8. Enter your Institution [TTFD]
9. Click on the [BACK] button.
10. Click on the [Done] button.
11. Press the [2D] button. Collect your images.
12. Press the [Delta] key and end exam. Save.

B. Transducer site placement:

1. Subxiphoid view (Cardiac)
2. Right Coronal (Morison's Pouch)
3. Left Coronal or Perisplenic view
4. Transverse pelvic view



Notes:

1. The purpose of the FAST Exam is to determine the presence of free fluid (Presumed to be blood) in the abdomen. It would be beyond the scope of our training to discuss any other findings with the patient.
2. Return the unit to service, clean the transducer, and charge the device.
3. Dot on transducer should reference right side of patient.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 36 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Intravenous Therapy

- A. All patients who have the potential need for fluid administration or drug administration will have an IV catheter placed.
- B. It will be permissible to use a "Reseal with Saline Flush" in place of an IV fluid bag and administration set to obtain and preserve venous access for patients whose condition does not require fluids or drug administration at the present time. Critical patients or those with the potential to require treatment interventions should not have a "Reseal". However, a reseal may be used as a second IV access site.
- C. Peripheral catheter size will be determined by situation. Large bore catheters should be used on patients who may become hypotensive either from drug therapy (i.e. NTG), or from the patient's injuries/illnesses.
- D. The following may be done **without** MD 1 authorization:
 1. Any peripheral IV placement (including external jugular access)
 2. Subclavian in adult size patient who is in **cardiac arrest or unconscious in which immediate fluid or drug administration is needed.**
- E. Normal Saline Bolus is to be done on any patient exhibiting signs and/or symptoms of fluid loss and/or dehydration. The end point fluid-replacement will be the **improvement in blood pressure.**
 1. Adult: 200 - 600 cc wide open; repeat as necessary
 2. Pediatric: 20 cc/kg wide open; repeat as necessary
- F. IV drip medication guidelines:
 1. Label all IV drips that are being infused with the medication; add stickers and fill out completely.
 2. If a patient has a triple lumen or other IV in place (such as a Hickman Catheter), you may use that in an emergency situation.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 37 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

IV Pumps

- A. The IV pump should be utilized when infusing all medicated drips. However, the situation may arise in which Dopamine, Lidocaine, Amiodarone, or Mag Sulfate may need to be infused on a patient immediately or when an IV pump is not available (i.e. Engine crew). These four medications may be infused using the calculated drip method until the IV pump is available.

- B. All paramedics should be proficient in the operation of the IV pump. If a question should arise about the operation of this device, it should be referenced in the Braun operation manual.

- C. The Braun pump has a built in dose rate calculator. The calculator is useful in setting up all medicated drips. To Select medication drip follow the below procedures:
 1. Turn on pump
 2. Confirm 60 cc syringe
 3. Select (NO) Last Therapy
 4. Select (YES) Drug Library
 5. Select desired drip
 6. Insert syringe in pump chamber (numbers facing out)
 7. Start infusion

- D. All Medications are mixed into 60 cc syringe as follows:
 1. Draw up 50 cc D5W into 60 cc syringe via 1 ½ safety needle
 2. Draw back plunger enough to allow addition of desired medication
 3. Draw up designated amount of desired medication into 1 cc syringe
 4. Add medication from 1 cc to 60 cc syringe via 1 ½ safety needle
 5. Gently mix covering syringe opening with finger
 6. Attach pump tubing and extension set to syringe and prime for administration
 7. Apply completed Medication Added sticker to pump tubing

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 38 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

King Vision Video Laryngoscope

A. Indication: To examine and visualize a patient's upper airway and aid in the placement of a tracheal tube. (Consider use with every first attempt at advanced airway).

B. Step-by-Step Instruction:

Step 1: Preparing the King Vision Video Laryngoscope for use:

1. Install Display into the Blade till fully engaged with a click.
2. Important: The Display must be "off" before attaching the Blade; otherwise, video image will be distorted.

Step 2: Powering On:

1. Press the power button on the back of the Display. Image will appear immediately.

Step 3: Insertion of King Vision Blade into the Mouth:

1. Open patient's mouth, suction excessive secretions/blood (if necessary).
2. Insert blade midline with the vocal cords. Do not push tongue towards the larynx.
3. As the Blade is advanced into the oropharynx, use anterior approach toward the base of the tongue.
4. Watch for the epiglottis and direct the Blade tip toward the vallecula to visualize the glottis on the Display video screen.
5. If lens becomes obstructed remove the blade and clean off lens.
6. Precaution: Do not use excessive force to insert the Blade into the mouth. Do not put pressure on the teeth with the King Vision Video Laryngoscope.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 39 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

King Vision Video Laryngoscope (cont.)

Step 4: ETT insertion:

1. While visualizing the vocal cords on the Display, Insert the ETT with pre-loaded stylet into the mouth using a lateral approach.
2. Once the ETT top has reached the posterior pharynx, direct the ETT tip towards the vocal cords.
3. Advance ETT tip just through the vocal cords and then retract the stylet prior to advancing the ETT into position in the trachea with the cuff below the cords. Fully remove the stylet.
4. Precaution: If Blade tip is advanced too far, the Blade may obstruct the ETT passage. To correct, place the Blade tip in the vallecula or withdraw the Blade slightly and gently lift in an anterior direction prior to advancing the ETT.
5. Tip: Adjust the ETT/stylet curve to match the Blade (standard Blade) curvature. For a more anterior larynx, a sharper bend may be appropriate.

Step 5: Blade Removal:

1. Hold ETT laterally and remove the Blade from the mouth by rotating the handle toward the patient's chest.

Step 6: Separation and Disposal of the King Vision Parts after use:

1. Separate the Display from the Blade and appropriately dispose of the Blade and disinfect the Display. **DO NOT DISPOSE OF THE DISPLAY.**

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 40 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

King Vision Video Laryngoscope (cont.)

C. Cleaning (Disinfection):

1. Do not submerge the Display in any liquid.
2. Orient the Display with the video screen above the battery compartment.
3. Wipe down Display and battery cover with moistened (not dripping wet) with 70% Isopropyl alcohol for no less than 8 minutes (replace wipes every 2 minutes).
4. Allow to air dry.
5. Do not clean Display with Cavicide.

D. Storage:

1. Store the Display in the supplied storage case.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 41 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Lifepak Cardiac Monitors

- A. Temple Terrace Fire Department utilizes the Lifepak 1000, Lifepak 12 and Lifepak 15. All paramedics are to be proficient in the operation of these devices.
- B. All cardiac monitors/defibrillators have the same general functions with the exception of 12 lead EKG capabilities. Any questions that may arise about the operation of these monitor/defibrillators should be referenced in the Physio-Control/ Medtronic service and operation manual for the device.
- C. 12 lead electrode placement:
- V-1 4th intercostal space to the right of the sternum
 - V-2 4th intercostal space to the left of the sternum
 - V-3 Directly in-between V-2 and V-4 (straight line)
 - V-4 5th intercostal space mid-clavicular line
 - V-5 Anterior-axillary line straight across from V-4
 - V-6 Mid-axillary line straight across from V-5
 - V-4R 5th intercostal space mid-clavicular line on **right side of chest**
 - **Limb leads go on limbs, not sternum**



Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
Subject: Protocol Procedures		Last Revision Date: September 29, 2016
		Page: 42 of 75
Accreditation Ref: 5G.5		
Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Lucas 2 (Chest Compression System)

- A. LUCAS assists rescuers by delivering effective, consistent and continuous chest compressions as recommended in the American Heart Association Guidelines.
- B. All personnel are to be proficient in the operation of the LUCAS device as defined in the instruction manual.
- C. Do not use the LUCAS in the following cases:
1. Unable to position the pressure pad correctly on the patient's chest
 2. Patient too small (Unable to enter pause or active mode with the pressure pad in place).
 3. Patient too large (Unable to fasten the locks to the back plate without compressing patient's chest).
 4. For any malfunction of the LUCAS device, remove the device and start manual chest compressions.
- D. Steps to Operate the LUCAS device:
1. Turn on device:
 - Push the ON/OFF for 1 second
 - Device will automatically power down after 5 minutes if left in Adjust Mode
 2. Apply device to patient:
 - Position back plate under patient below the armpits
 - Attach the Upper part support legs to the lower back plate
 - Correctly position the lower edge of the Suction Cup immediately above the end of the sternum.
 - In Adjust Mode, push down the Suction cup with two fingers until the pad touches the chest without compressing.
 - Push Pause to Lock the Start Position, then remove your fingers.
 3. Start Compression:
 - Push Active (Continuous), patient intubated or
 - Push Active (30:2), patient is not intubated.



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 43 of 75

Accreditation Ref:

5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Lucas 2 (Chest Compression System) (cont.)

4. Apply the Stabilization Strap (Unit is Active):
 - Position cushion behind patient's neck
 - Connect buckles on the support leg straps
 - Tighten down the straps while holding the support legs stable.
5. Moving the patient:
 - Secure the patient's arms with the patient straps on the device.
 - Use of LSB to move patient, do not lift the patient by any part of the LUCAS device.
 - LUCAS may be active while moving the patient if:
 - o LUCAS and patient are positioned on stretcher
 - o LUCAS suction cup stays in correct position
6. To perform defibrillation while LUCAS operates:
 - Position defibrillation pads and wires so they are not under the suction cup
7. To perform ventilation while LUCAS operates:
 - Active (Continuous) green LED will illuminate 8 times a minute to alert for ventilation during on-going ventilation
 - Active (30:2) LED and alarm signal prior to 3 second compression delay to allow for rescuer to give 2 ventilations.
8. To remove the LUCAS from the patient:
 - Push the ON/OFF for 1 second to power off the device.
 - Remove the cushion strap
 - Pull the release rings to remove the upper part from the back plate.
 - Remove the back plate.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 44 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Lucas 2 (Chest Compression System) (cont.)

9. Cleaning of device after use:

- Remove the disposable suction cup.
- Clean the device and let dry.
- Clean the patient straps if necessary.

10. Preparation for the next use:

- Replace the used battery with a fully charged battery.
- Mount a new suction cup.
- Pack the device in the carry bag.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 45 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Mandatory Reporting Requirements

- A. The State of Florida Health and Rehabilitative Services has mandatory reporting requirement that may pertain to the operations of the Temple Terrace Fire Department.

- B. The information presented in this protocol is selected information from Florida Statutes Chapter 415. Any additional questions to legal reference(s) made in your management of patient care should be made through MD 1. Additional information needed about this law should be researched using Florida Statutes or legal counsel.

- C. Suspected Child Abuse (HRS Program Letter 84-7)
 - Sections 415.502-415.504(3), Florida Statutes, cover the major requirements for EMT and Paramedic staff in terms of mandatory reports of child abuse or neglect. Section 415.504 Florida Statutes requires that the above staff, as listed professional classes, must report if they believed abuse or neglect has occurred. This report is made to the Central Abuse Hot-Line Registry in Tallahassee at 1-800-96-ABUSE, which is operated on a 24-hour basis.
 - Each report of known or suspected child abuse or neglect shall be made immediately to the state central abuse Hot-Line on the single statewide toll-free telephone number, and, if the report of an instance of known or suspected child abuse by a non-caretaker, the call shall be immediately electronically transferred to the appropriate county sheriff's office by the central abuse Hot-Line.
 - EMS personnel are required to provide their names to the Hot-Line staff. The names of the reporter shall be entered into the record of the report, but shall be held confidential as provided in s. 415.51(9).
 - For the purposes of guiding your decision and actions, the following legal definitions are provided from Section 415.503 Florida Statutes. They are paraphrased as follows with statute reference; essential sections of concern have emphasis added.
 1. "Abused or neglected child" means a child whose physical or mental health or welfare is harmed, or threatened with harm, by the acts or omissions of the parent or other person responsible for the



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:

March 21, 2005

Last Revision Date:

September 29, 2016

Page: 46 of 75

Accreditation Ref:

5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Mandatory Reporting Requirements (cont.)

child's welfare or, for purposes of reporting requirements, by any person

2. "Harm" to a child's health or welfare can occur when the parent or other person responsible for the child's welfare:

(a) Inflicts, or allows to be inflicted, upon the child physical or mental injury. Such injury includes, but is not limited to:

(1) Injury sustained as a result of excessive corporal punishment

(2) Physical dependency of a newborn infant upon any drug controlled in schedule 11 or s. 893.03 with the exception of drugs administered in conjunction with detoxification program as defined in s. 397.021, or upon drugs administered in conjunction with medically approved treatment procedures, provided that no parent of such newborn infant shall be subject to criminal investigation solely on the basis of the infant's drug dependency;

(b) Commits, or allows to be committed, sexual battery, as defined in Chapter 794 against the child or commits, or allows to be committed, sexual abuse of the child;

(c) Exploits a child, or allows a child to be exploited, as provided in s. 50.151;

(d) Abandons the child;

(e) Fails to provide the child with supervision or guardianship by specific acts or omissions of a serious nature requiring the intervention of department or court;

(f) Fails to supply the child with adequate food, clothing, shelter, or health care, although financially about to do so or although offered financial or other means to do so; however, a parent or other person responsible for the child's welfare legitimately practicing religious beliefs, who by reason thereof does not provide specified medical treatment for a child, may not be considered abusive or neglectful for that person alone.

(g) Even though the statutes indicate that mandatory reporting must be accomplished using the established Abuse Hot-Line, there is nothing to prevent an EMT or Paramedic professional from reporting a suspected act of child abuse to

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 47 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Mandatory Reporting Requirements (cont.)

the law enforcement agency with jurisdiction “where the alleged abuse occurred.” This report is not mandatory, but if personnel feel any immediate law enforcement action is necessary, they are encouraged to report the incident to the local law enforcement agency in addition to the required Hot-Line notification.

D. Suspected Adult Abuse:

- Sections 415.101-415.103(2) Florida Statutes extend the same mandatory reporting conditions described for children to aged adults. The same mandatory reporting requirements are required.
 - Definitions that pertain to this section that may be useful in guiding out decisions are listed below with emphasis added for important considerations. These definitions are extracted from Section 415.102.
1. “Abuse” means the non-accidental infliction of physical or psychological injury or sexual abuse upon a disabled adult or elderly person by a relative, caregiver, or household member, or an action by any of those persons which could reasonably be expected to result in physical or psychological injury, or sexual abuse of a disabled adult or an elderly person by any person. “Abuse” also means the active encouragement of any person by a relative, caregiver, or household member to commit an act that inflicts or could reasonably be expected to result in physical or psychological injury to a disabled adult or an elderly person.
 2. “Elderly person” is defined as a person 60 years of age or older who is suffering from infirmities of aging as manifested by advanced age or organic brain damage, or other physical, mental, or emotional dysfunctioning to the extent that the ability of the person to provide adequately for the person’s own care is impaired.
 3. “Neglect” means the failure or omission on the part of the caregiver to provide the care, supervision, and services necessary to maintain the physical and mental health of the disabled adult or elderly person, including, but not limited to, food, clothing, medicine, shelter, supervision, and medical services, that a prudent person

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
			Page: 48 of 75
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Mandatory Reporting Requirements (cont.)

would consider essential for the well-being of a disabled adult or an elderly person. The term “neglect” also means the failure of a caregiver to make reasonable effort to protect a disabled adult or elderly person from abuse, neglect, or exploitation by others. “Neglect” is repeated conduct or a single incident of carelessness, which produces or could reasonably be expected to result in serious physical or psychological injury or a substantial risk of death.

4. “Exploitation” means a person who –
 - (a) Stands in a position of trust and confidence with a disabled adult or an adult person and knowingly, by deception, or intimidation, obtains or uses, or endeavors to obtain or use, a disabled adult’s or elderly person’s funds, assets, or property with the intent to temporarily or permanently deprive a disabled adult or an elderly person of the use, benefit, or possession of the funds, assets, or property for the benefit of someone other than the disabled adult or elderly person; or
 - (b) Knows or should know that the disabled adult or an elderly person lacks the capacity to consent, and obtains or uses, or endeavors to obtain or use a disabled adult or an elderly person’s funds, assets, or property, with the intent to temporarily or permanently deprive a disabled adult or an elderly person of the use, benefit, or possession of the funds, assets, or property for the benefit of someone other than the disabled adult or elderly person.
5. “Exploitation” may include, but is not limited to:
 - (a) Breaches of fiduciary relationships, such as the misuse of power of attorney or the abuse of guardianship duties, resulting in the unauthorized appropriation, sale, or transfer of property;
 - (b) Unauthorized taking of personal assets
 - (c) Misappropriation, misuse, or transfer of moneys from belonging to a disabled adult or elderly person from a personal or joint account, or

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 49 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Mandatory Reporting Requirements (cont.)

(d) Intentional or negligent failure to effectively use a disabled adult's or elderly person's income and assets for the necessities required for that person's support and maintenance.

- The reporting of such instances to the state reporting hot-line is mandatory and required by the statute. Nothing in the statutes precludes an EMT or Paramedic professional from reporting an incident to the law enforcement agency of jurisdiction where the alleged abuse occurred. Personnel are encouraged to report to the law enforcement agency as well as the state hot-line when, in their judgment, the situation warrants law enforcement investigation.
- In all cases of reporting, a full incident report is to be completed.



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:
March 21, 2005

Last Revision Date:
September 29, 2016

Page: 50 of 75

Accreditation Ref:
5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Medicated Drips

Adult Mixtures:

Amiodarone Drip:

Mix 150 mg (3 mL) into 50 mL D5W
Concentration of Solution: 3 mg/mL
Starting Dose: Administer over 10 min (300 mL/hr.)

Dopamine Drip:

Mix 80 mg (1 mL) into 50 mL D5W
Concentration of Solution: 1600 mcg/mL
Starting Dose: 10 mcg/kg/min

Epinephrine Drip:

Mix 0.2 mg (0.2 mL of 1:1,000 solution) into 50 mL D5W
Concentration of Solution: 4 mcg/mL
Starting Dose: 2 mcg/min (30 mL/hr.)
3 mcg/min (45 mL/hr.)
4 mcg/min (60 mL/hr.)

Lidocaine Drip:

Mix 100 mg (5 mL) into 50 mL D5W
Concentration of Solution: 2 mg/mL
Starting Dose: 2 mg/min (60 mL/hr.)
3 mg/min (90 mL/hr.)
4 mg/min (120 mL/hr.)

Magnesium Drip:

Mix 1 Gram (2 mL) into 50 mL D5W
Concentration of Solution: 20 mg/mL
Starting Dose: Administer over 20 min (150 mL/hr.)

Tridil Drip:

Mix 2.5 mg (0.5 mL) into 50 mL D5W
Concentration of Solution: 50 mcg/mL
Starting Dose: 10 mcg/min (12 mL/hr.)
15 mcg/min (18 mL/hr.)
20 mcg/min (24 mL/hr.)

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 51 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Medicated Drips (cont.)

Pediatric Mixtures:

Dopamine Drip:

Mix 80 mg (1 mL) into 50 mL D5W
 Concentration of Solution: 1600 mcg/mL
 Starting Dose: 10 mcg/kg/min

Lidocaine Drip:

Mix 100 mg (5 mL) into 50 mL D5W
 Concentration of Solution: 2 mg/mL
 Starting Dose: 20-50 mcg/kg/min

Note:

1. If IV pump fails contact TR1

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 52 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Nasal Atomizer (Intranasal Route of Administration)

- A. Inspect each naris for blood or mucous. If either is present, suction prior to drug administration. If adequate suctioning cannot be accomplished, an alternative medication route is required.
- B. Draw a single dose of medication divided equally into (2) separate syringes. The single dose should be divided between both nares, (assuming both nares are patent), whenever possible.
- C. Syringes contain 0.1 mL of “dead space”. This must be considered to ensure that the patient receives the desired amount of the medication. i.e., A 1 mL syringe will only deliver 0.9 mL of medication.
- D. Avoid giving more than 1 ml per naris (0.25-0.5 mL/naris is ideal).
- E. Remove the needle and attach the atomizer.
- F. Use one hand to secure the head. With the other hand carefully and firmly insert atomizer into naris.
- G. Rapidly push the plunger to administer the medication.
- H. Monitor for desired effects.

Notes:

1. Certain conditions such as epistaxis, excessive mucous, nasal trauma, and septal abnormalities may inhibit absorption. If these conditions are present alternative routes are advisable.
2. Mild intranasal burning may occur for 30 seconds after administration. Prepare patients/parents for this prior to drug administration.

The following medications may be administered via the IN route:

1. Narcan 0.1 mg/kg, max dose 2 mg (prefer 1 mg/mL concentration)
2. Ativan 0.1 mg/kg, max dose 2 mg (prefer 2 mg/mL concentration)
3. Fentanyl- 2 mg/kg, max dose 50 micrograms (prefer 50 mcg/mL concentration).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 53 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

No Codes/Resuscitation/Determination of Death

A. No Codes-Medical

1. The American Heart Association recognizes several situations in which it is permissible to withhold (i.e. not initiate) CPR:
 - decapitation
 - rigor mortis
 - dependent lividity
 - tissue decomposition
2. It is understood that sometimes first responders, acting under their own agency's guidelines and without the benefit of an EKG Monitor, may have started CPR on a person who fits the criteria above. Paramedics may recognize death, but do not legally pronounce death, and have a responsibility to continue CPR already in progress. If, in the opinion of the Engineer, the patient exhibits any of the above signs AND CPR has been initiated, the Engineer may discontinue CPR without contacting TR1. The Engineer must document thoroughly the signs exhibited at the time of CPR termination.
3. "Do Not Resuscitate" (DNR) orders. TTFD policy on paramedic acceptance of DNR orders is: unless a properly identified physician states directly to you in person that resuscitation efforts should not be initiated or a DH Form 1896 pre-hospital DNRO is given to you, it is your legal responsibility to provide treatment and/or resuscitative measures as indicated in the SOG. MD 1 should be contacted for any discrepancies.

B. No Codes-Trauma

1. A patient either initially meeting or deteriorating to the criteria for a blunt trauma code can be assumed to have sustained a terminal injury. When all of the conditions listed below are satisfied, no resuscitative measures are required, and any emergency treatment in progress may be stopped.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 54 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

No Codes/Resuscitation/Determination of Death (cont.)

- In deciding if a victim is a blunt trauma code, all of the following conditions must be present:

- Present history of blunt trauma
- Apneic
- Pulseless
- No palpable blood pressure
- No heart sounds, or
Asystole (no electrical activity on monitor), or
Agonal rhythm (wide ventricular complex with rate < 40)

C. Additional Requirements:

- Simple Thorocostomy must be performed if resuscitation has been initiated. Simple Thorocostomy is not required if patient meets the Blunt Trauma Code Criteria and no resuscitative measures are initiated.
- Supporting evidence of a rhythm strip must accompany the PCR. The only exception to the rhythm strip requirement will be the need to deliver care to other victims at the scene of the blunt trauma. Deviation is **only warranted** when additional resources are required to provide care or assess critically injured patients.
- Documentation of the PCR must specifically address the above criteria.
- Any victim of blunt trauma who, in the presence of a paramedic, deteriorates to meet the criteria for blunt trauma code, in which adequate airway control and ventilation have been accomplished using either ALS or BLS procedures, has sustained a terminal injury. No further resuscitative measures are necessary.
- A copy of the PCR must be left at the scene with the deceased.
- The Engineer may decide to continue resuscitative efforts for any reason, including scene safety, and will transport expediently to the nearest appropriate facility.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 55 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

No Codes/Resuscitation/Determination of Death (cont.)

- The handling of patient remains requires a high degree of sensitivity to public perception and scene decorum. The Hillsborough County Medical Examiner should be contacted immediately to arrange transport of patient. Contact should be made with TR1 if any difficulties are encountered.

D. Discontinuing Resuscitation

Resuscitation may be discontinued in the pre-hospital setting when the patient is non-resuscitable after an adequate trial of ACLS. The TTFD Medical Director remains ultimately responsible for determination of death. **Before contacting MD1 for approval, the following criteria MUST be met:**

- An airway has been achieved by intubation (or AirQsp Airway)
- Intravenous access has been achieved
- Rhythm appropriate medications and counter shocks for ventricular fibrillation have been administered according to ACLS policies
- Asystole or Agonal electrocardiograph patterns are present in two leads and no reversible causes are present
- Family members have been consulted prior to termination of resuscitation, if possible. Based on discussion of the patient's pertinent medical history and the situation encountered on the call, transport may be warranted in certain circumstances despite the extremely small likelihood of benefit to the patient. The Engineer in charge of the resuscitative effort may elect to continue resuscitation and transport.

*Once the patient has been loaded into the ambulance, resuscitation **MUST** be continued until arrival at the emergency department. Stopping resuscitation with the patient in the ambulance creates a complex legal situation that would involve the local law enforcement agency, the medical examiner, and any potential receiving facility.*

If MD1 authorizes the cessation of resuscitative efforts, the body may be covered with a clean sheet at the discretion or authorization of the investigation officer on scene. IV lines and endotracheal tubes are to be left in place and the local law enforcement agency is to be notified immediately.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 56 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Nasogastric/Orogastric Tube Placement

- A. Capturing and securing the airway will be the first goal in treating any patient.
- B. Insertion of the nasogastric tube should be considered as an adjunct to airway control and ventilation.
- C. A nasogastric tube should be inserted on every cardiac arrest. This can help prevent aspiration and increase tidal volume during ventilations. This is most notable in the pediatric cardiac arrest.
- D. Select the proper sized nasogastric tube for placement. To ensure the proper size nasogastric tube in the pediatric patient refer to the Broslow tape. Proper sizing for an adult patient will consist of patient's nare size and body weight.
- E. To approximate the proper length of insertion for the NG tube, place the nasogastric tube distal tip at the xiphoid process and run it up the sternum and around the ear and to the tip of the nose. Mark this with tape or fingers prior to insertion to avoid placing too much tube in stomach. This technique for estimating the proper length for the NG tube will work for both adult and pediatric patients.
- F. To assure NG tube is properly placed, insert the air into the tube and listen for the sound of air bubbling in the stomach over the epigastric area.
- G. Secure the NG tube to the bridge of the nose with tape or venigard.
- H. Document the proper placement of the NG tube and that it is secured in place.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 57 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Nebulized (NEB) Drug Administration

- A. Proper technique in the administration of nebulized bronchodilators is crucial to its successful delivery into the lower airways.
- B. A patient's cardiac rhythm is to be monitored.
- C. Use the following procedure to administer the drug:
 1. Pour drug contents into the nebulizer reserve.
 2. Assemble the unit including the mouthpiece and oxygen supply tubing.
 3. Ensure that the unit is held upright to facilitate proper updraft and nebulization of the medication.
 4. Connect the oxygen source and set flow at 6 liters per minute until vapor is coming out of the unit.
 5. Have the patient sit upright and close their lips around the mouthpiece.
 6. Have them breathe the medication in and out as slowly and as deeply as possible.
 7. Encourage the patient to keep their lips closed around the mouthpiece.
 8. Coach the patient in deep smooth slow breaths.
- D. Nebulizer treatments can also be administered by in-line BVM and O2-face mask.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 58 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Oxygenation & Ventilation

A. Oxygen should be started as soon as the airway becomes patent.

B. Oxygenate via:

9. Nasal cannula
10. Non-rebreather Mask
11. Simple Face Mask (for infants)
12. Bag-Valve-Mask Device with reservoir and oxygen line
13. Autovent 3000 ventilator

C. Autovent 3000

The Autovent 3000 is a time-cycled, constant-flow, gas-powered ventilator. It delivers 8 to 20 BPM, tidal volumes of 200 to 1200 cc, and operates for any 50 psi source.

- Tidal volume 5-7 cc/kg
- Adult Rate 10 -12
- Pediatric Rate:
 1. School age 18 to 30
 2. Adolescent 12 to 16
- Inspiratory time
 1. 2 seconds Adult
 2. 1 second Pediatric
- Remember to calculate patient minute volume
 1. $V_{min} = V_t - V_d \times \text{respiratory rate}$

D. CPAP (Refer to CPAP Protocol)



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:
March 21, 2005

Last Revision Date:
September 29, 2016

Page: 59 of 75

Accreditation Ref:
5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Pediatric Restraint System (Transport Device)

1. This will be used to help insure compliance with Florida Statue 316.613. Absent any contraindications, when transporting a pediatric who meets weight guidelines, this devise must be used.
2. The Cot-Mounted Pediatric Restraint devise is rated for patients weighing between 22 pounds and 100 pounds.
3. This devise is **NOT** approved for use as a spinal motion restriction adjunct and therefore must not be used as a long spine board.
4. The **infant** who is already secure in a child safety seat, may be transported with extra padding in place to aid in spinal motion restriction.
5. The Pediatric Restraint System will be secured to ambulance cot according to manufactures recommendations.
6. When transporting children weighing between 22 and 40 pounds, the cot backrest must not be lower than 45 degrees (70 to 45 degree range).
7. When transporting children weighing more than 40 pounds, the cot backrest can be positioned in the 70 degree to flat range.
8. Cleaning/Disinfecting – This devise should be cleaned with warm soap and water. Only water may be used to clean the buckles and hardware. Do Not use cleaners containing bleach. If Cavicide is used to disinfect the devise, it must be wiped clean with water and air dried.
9. Do Not immerse the entire restraint in water.
10. When not in use, this devise will be stored in its' designated area.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 60 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Post Exposure Prophylaxis (PEP)

- A. The purpose of this protocol is to obtain a blood sample from the source patient if one of our personnel is **significantly** exposed to blood or other potentially infectious material.
- B. A significant exposure will be defined as a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of a responder's duties.
- * C. Once it has been determined that a significant exposure has occurred and **contact has been made with the Chief on Call or TR1**, the following procedures must be followed:
 1. Provide and explain PEP consent form to source patient. Complete form completely and have patient sign and date.
 2. Draw blood and fill two red top tubes and one lavender tube for source testing.
 3. Blood tubes should be labeled completely after obtaining samples.
 4. Blood tubes will be taken to the Occupational Health Services facility (during operating business hours) and Florida Hospital-Tampa ER (after hours and weekends) by the personnel exposed. **Do not give blood samples to receiving facility of source patient.**
 5. The Occupational Health Services facility will handle the employee treatment and source testing after receiving the blood samples.
- D. Should the source patient not require transport to the hospital the same procedure should be used to obtain blood sample.
- E. If the source patient refuses to sign consent form, indicate "refused to sign" on the form. A court order will need to be obtained prior to drawing sample.
- F. If the source patient is unconscious or unable to make decisions due to altered mental status proceed with blood draw and document reason for inability to sign form (i.e., cardiac arrest).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 61 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Positive-End-Expiratory Pressure (PEEP) (cont.)

- A. Some patients may benefit from PEEP. These patients will be those experiencing pulmonary edema, from whatever source.
- B. Our PEEP valves are adjustable from 0 to 20 cm H₂O. Paramedics will be able to give up to 10 cm H₂O.
- C. Too much PEEP will lower cardiac output and therefore lower the blood pressure.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 62 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Carboxyhemoglobin Monitoring

A. Indications for use of Carboxyhemoglobin Monitoring are as follows:

- EMS/Fire Victims: When suspected exposure to byproducts of combustion has occurred such as smoke inhalation, known or suspected exposure to carbon monoxide, or patients with Hazardous Materials exposures.
- Firefighters: During rehabilitation period of IDLH exposure firefighters shall record CO levels during entry and exit of rehab area on the vital sign sheet. Any firefighter who had been reported as lost, injured or has as SCBA equipment malfunction shall have his/her CO and methemoglobin level recorded and properly documented on the appropriate log or pre-hospital care report if applicable.

B. There are no contraindications for Carboxyhemoglobin Monitoring.

C. The following procedures must be followed:

1. Remove patient from IDLH atmosphere or area (consider SCBA for rescuer). Obtain history.
2. If HazMat exposure, follow appropriate decontamination, evacuation and patient treatment protocols.
3. Assess ABC's. Secure airway and assist ventilations if necessary. If in respiratory distress, refer to the respiratory protocol.
4. Obtain serial vital signs and attach carboxyhemoglobin monitor. Record methemoglobin level.
5. Attach ECG and establish IV access if needed.
6. Administer Cyanokit if indicated.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 63 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Carboxyhemoglobin Monitoring (cont.)

D. Carbon Monoxide findings and associated treatment:

1. CO levels of < 4% and asymptomatic
 - No treatment required.
2. CO levels < 9% and mild headache
 - Administer 100% oxygen via NRBM for 20 minutes and reassess.
 - If CO levels persist or remain > 4% contact MD1.
3. CO levels 10-19%
 - Administer 100% oxygen via NRBM and transport to transport to the closest facility/patient choice.
4. CO levels > 19%
 - Administer 100% oxygen via NRBM.
 - *** Contact MD1 and advise transport to Hyperbaric Medical Facility
5. Pediatric or pregnant patient with CO > 9%.
 - Treat as above
 - *** Contact MD1 for consultation

E. Notes and Precautions:

1. Pulse oximetry should not be used as a determination of oxygenation in patients with elevated carboxyhemoglobin levels.
2. Smokers may have elevated baseline CO levels of between 5-10%. Obtaining history of smoking in these patients is needed.
3. Any evidence of neurological compromise, altered mental status, or cardiac symptoms along with any suspected CO event require transport and appropriate hospital destination.
4. If suspected cyanide poisoning, treat per protocol.
5. There are no emergent barotrauma facilities in Hillsborough County. St. Joseph takes cases from 9-5 by appointment only. Florida Hospital Orlando is the closest emergent barotrauma facility.



Document:
Medical Protocols

Subject:
Protocol Procedures

Approved by:

Ian Kemp
Fire Chief

Initial Issue Date:
March 21, 2005

Last Revision Date:
September 29, 2016

Page: 64 of 75

Accreditation Ref:
5G.5

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Rapid Extrication

- A. The technique for rapid extrication will only be performed on the following:
1. Patient is too large for KED
 2. Patient is in danger due to environment (e.g. strong possibility of fire, precarious position of vehicle)
 3. Patient is in critical condition and needs immediate life support (only approximately 10% of all trauma patients fit into this category)
 4. On a non-critical patient, to gain access to a critical patient
- B. Physical exam must be thoroughly documented to support reason for rapid extrication.
- C. The technique for rapid extrication will be performed in accordance with Pre-Hospital Trauma Life Support.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 65 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Rapid Sequence Induction

- A. Medical and Trauma patients who, according to the Engineer's judgment, require an airway to be established are to follow current Airway Protocol. If the qualified paramedic cannot accomplish intubation through conventional techniques and there are no contraindications for paralytic administration then RSI drugs may be utilized.
- B. RSI will include the use of the following drugs in this prescribed order ONLY: Lidocaine, Etomidate, and Succinylcholine. These medications are to be given IV only for this procedure. Medication doses for pediatric patients are the same as adult.
- C. Attach patient to cardiac monitor and pulse oximetry
- D. Pre-oxygenate with high flow oxygen via BVM
- E. Atropine (prior to RSI in pediatric patients)
 - 0.02 mg/kg IV/IO
- F. Lidocaine (head injury patients only)
 - 1 mg/kg IV/IO
- G. Etomidate (may be the only drug required to achieve successful RSI)
 - 0.3 mg/kg IV/IO
- H. If Etomidate not available then alternate sedation PRIOR to Succinylcholine and Intubation will be:
 1. Ativan
 - 1-2 mg IV/IO PRN (slow push, flush thoroughly)
 - Max. dose 5 mg

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 66 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Rapid Sequence Induction (cont.)

2. Fentanyl

- 50 micrograms every 5 mins. IV/IO (slow push, flush thoroughly)
- SBP must be > 90 mmHg

I. Consider removing the cervical collar (with manual cervical motion restriction) to apply the Sellick maneuver until the intubation is successful. If the patient actively vomits, you may release cricoid pressure and perform oropharyngeal suctioning.

J. Treat Bradycardia during the intubation attempts by interrupting intubation and ventilating the patient with BVM and high flow oxygen.

Atropine (persistent bradycardia in adult patients)

- 0.5 mg IV /IO

K. If ET intubation is **not** successful after 1-2 attempts, consider insertion of AirQsp airway device.

L. Succinylcholine (Wait for fasciculation's to stop to perform intubation)

- 1 mg/kg IV/IO (push over 30 secs.)
- May repeat dose 1 time

M. Ativan (sedation following successful intubation)

- 2 - 4 mg IV / IO PRN
- Max. dose of 10 mg

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 67 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Rapid Sequence Induction (cont.)

N. Once intubation is successful follow the current airway protocol for confirming and securing the endotracheal tube.

O. Norcuron

- 0.1 mg/kg IV/IO
- DO NOT give as first paralytic drug
- Patient must be intubated with adequate ventilation in progress
- Patient is unmanageable with sedation alone or concern for crew safety during transport(i.e., aeromedical team)
- If Norcuron is administered the patient shall also be administered Ativan

P. Fentanyl (pain management following successful RSI)

- 50 micrograms every 5 mins. IV/IO (slow push, flush thoroughly)
- SBP must be > 90 mmHg

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 68 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Simple Thoracostomy

A. Indicated for patients presenting the following:

- Resuscitative efforts are initiated by TTFD personnel
- Traumatic cardiac arrest (known or suspected injury to the chest and/or abdomen).

B. Contraindicated for patients presenting with the following:

- Have pulse or blood pressure
- Suffered devastating head injury
- Blunt Trauma code criteria

C. Procedure:

1. Place the patient in a supine position with the arm on the affected side abducted and externally rotated with palm of the hand behind the patient's head, if possible.
2. The paramedic must be positioned on the affected side, perpendicular to the patient.
3. Locate the incision site, mid-axillary line between the fourth and fifth intercostal space over the rib. Usually this will be above the nipple line (males) and breast tissue should be lifted out of the way of the incision (females).
4. Cleanse with aseptic technique.
5. Make 1-2 inch incision (skin only) with scalpel.
6. Insert the curved clamp (rapid blunt dissection) in a caudal (posterior) direction through the intercostal muscles and penetrate into the pleural space.
7. Open the clamp widely to allow expulsion of air and/or blood.
8. Remove the clamp from ostomy (opening). The ostomy should be large enough to freely insert a finger without pushing or re-tention of the muscle.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 69 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Simple Thoracostomy (cont.)

9. Insert a finger through the ostomy site into the pleural space and palpate the parietal pleura and lung to ensure you have entered the thoracic cavity. This technique confirms the following:
 - Possible tension pneumothorax causing the traumatic cardiac arrest has been managed.
 - Have not entered subcutaneous fat.
 - Indisputable confirmation that you're in the right place unlike needle decompression in the pre-hospital setting.
10. Place a chest seal over each wound with valve over the incision (if ROSC occurs).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 70 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Spinal Motion Restriction

- A. Patients, with a traumatic injury mechanism, that meet the below criteria should be treated with all of the following spinal motion restriction devices: cervical collar, long spine board (or pediatric immobilization device), head stabilization devices, and straps:
1. Patients who are markedly agitated, confused, intoxicated, combative, or otherwise unable to follow commands with regard to minimizing their own spinal movement (this is inclusive of patients in which are developmentally unable to communicate and follow commands i.e., patients < 4 y/o).
 2. Patients that meet Hillsborough Country Trauma Alert criteria and there is the strong potential or suspected spinal injury.
 3. Patients that would benefit from spinal motion restriction devices for their safety or that of the Fire Department personnel.
- B. Cervical Spine Motion Restriction Only: In cases where the patient exhibits one or more of the below signs or symptoms, they should have a cervical collar applied and coached to self-stabilize their own spine by reducing movement and remaining in a position of comfort.
1. Point tenderness or pain upon palpation of cervical spine.
 2. Numbness, decrease in strength, and/or tingling in the extremities.
 3. Distracting injury preventing adequate assessment of cervical spine.
(A distracting injury will be defined as a traumatic injury severe enough to require pain management with the use of narcotics.)
- C. All other patients not meeting the above criteria should be transported to the definitive care facility in a position of comfort with no spinal motion restrictive devices.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 71 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Subclavian Protocol

- A. This procedure shall only be performed by individuals who have been thoroughly trained in the technique.
- B. The subclavian vein will only be used on adult size patients.
- C. The subclavian vein will be used **only on adult size cardiac arrest or unconscious patient in which immediate fluid or drug administration is needed.**
- D. An unsuccessful central line placement attempt precludes fibrinolytic therapy.
- E. Only the infra-clavicular approach will be used.
- F. The right side should be used if possible or the injured side if patient appears to have pneumo/hemothorax.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 72 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Taser Dart Removal

- A. Taser dart removal in the field should proceed only if ALL criteria for refusal of transport are met.
- B. Patients that have a taser dart removed, meet the refusal of transport criteria and do not request transport to the hospital may be released into police custody.
- C. The default procedure is transport the patient to the hospital by ambulance with police in attendance if necessary.
- D. The following criteria must be met prior to obtaining a patient refusal for further medical treatment and/or transport after a taser dart has been removed from the patient:
 1. Patient observation for 15 minutes (starting from arrival at patient's side)
 2. Patient is at least 18 years of age
 3. Patient must have a GCS of 15.
 4. Patient must have (HR < 110 bpm, RR > 12, SpO2 > 94%, SBP > 100 mmHg or < 180 mmHg).
 5. No penetration of the eye, face, head, neck, breasts (females), axilla or genitals
 6. No other acute medical or psychiatric complaint and/or condition requiring medical evaluation as listed below:
 - Traumatic injury sustained in taser dart induced fall or police encounter
 - Hypoglycemia
 - Acute psychiatric disturbance or agitated delirium
 - No tetanic muscle contractions (stimulation of the motor unit, usually muscle or nerves)
 - Patient is not requesting transport to hospital

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 73 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Taser Dart Removal (cont.)

- Patient has had tetanus booster in last ten years. If tetanus status is unknown, the patient may be taken to hospital by police if all other treatment and release criteria are met. (Police are to be informed that it is the responsibility of the police service to ensure that the patient receives a tetanus booster within 72 hours. This advice must be documented in the PCR.)
- All darts which have been deployed are accounted for

E. If the above criteria are met then the steps to remove the taser dart is as follows:

1. Ensures that the TASER device is no longer applying electrical charge prior to contacting the patient, darts, or wires.
2. Use scissors to cut the wire at the base of each dart cylinder to disconnect the dart(s) from the TASER cartridge.
3. Wearing gloves, grasp the cylinder of the TASER dart between the thumb and index finger of one hand. Remove the dart with a quick, firm pull directed perpendicular to the skin surface. Dispose of the dart in a sharps container, being careful not to poke oneself with the barb. Repeat this step for each embedded dart.
4. Cleanse each dart wound and the surrounding skin with saline-soaked gauze or alcohol pad.
5. Cover each area with a Band-Aid or other sterile dressing. Inform the patient and police that this may be removed in 24 – 48 hours.
6. Ask the patient if they would like to be taken to the hospital. If the patient refuses, document the patient's refusal as per guideline. If the patient wishes transport to hospital, then transport is to be initiated.
7. If the patient refuses transport, instruct the patient to seek medical attention immediately, if he/she develops any signs of infection around one or more of the wounds (fever, increased pain, redness, heat, swelling, purulent discharge).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 74 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Taser Dart Removal (cont.)

F. The following information must be documented in the PCR :

1. Patient's presenting signs and symptoms, including vital signs, level of consciousness and oxygen saturation.
2. Indications for protocol use.
3. Time of removal.
4. Location (anatomic) of dart embedment.
5. Findings and/or results of dart removal.
6. Repeat assessment, including vital signs, level of consciousness and oxygen saturation, as indicated.
7. Changes from baseline, if any, that occur during treatment or transport.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Protocol Procedures		Last Revision Date: September 29, 2016
	Page: 75 of 75		
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Vagal Maneuvers

A. The degree of stimulation of the Vagus nerve affects the heart rate. The greater the degree of vagal stimulation, the more the Vagus nerve will slow the heart rate by directly inhibiting the SA node. Therefore, vagal stimulation is a modality used in the treatment of clinically dangerous Supraventricular Tachycardia (SVT) due to the primary cardiac rhythm disturbances, such as aberrant pathway disorders.

B. Warnings

- Carotid sinus massage is not to be performed
- Do not use vagal maneuvers to treat SVT secondary to Hypovolemia
- Due to the risks of the procedures, they should only be employed when the SVT itself poses a significant clinical danger
- Bradycardia or Asystole may occur during stimulation, hence, all vagal stimulation must be performed under constant EKG monitoring

C. Valsalva Maneuver

- This is the least dangerous method and should be the maneuver of choice.
- The patient is instructed to take a deep breath and bear down.
- Alternatively, hand pressure may be exerted against the abdomen if it is not tender. The patient is then instructed to attempt to push the hand off their abdomen by bearing down.
- The breath and pressure should be held as long as possible. This procedure may be repeated as needed.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 1 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Adenocard (Adenosine)

Class – Endogenous nucleoside

Indications:	PSVT refractory to vagal maneuvers.
Contraindications:	High-degree heart blocks, sick sinus syndrome.
Action:	By disrupting reentry pathways in the AV node, adenosine restores NSR; temporarily stops AV conduction (half-life of < 10 sec).
Side Effects:	Dyspnea, bronchospasm in asthmatics, facial flushing, chest pain, transient arrhythmias, tachycardia, nausea and vomiting, burning sensations.
Drug Interactions:	Carbamazepine and Dipyridamole potentiate the effects of adenosine causing an increased likelihood of heart blocks. *** Consider contacting MD 1 for decreased dosages. Both theophylline and caffeine may decrease the effects of adenosine. *** Consider contacting MD 1 for increased dosages.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 2 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Albuterol Class -Bronchodilator

Indications:	Reversible bronchospasm secondary to COPD, smoke inhalation, etc.
Contraindications:	Known sensitivity to the drug.
Cautious Use:	May worsen treatable hypertension. May cause hypertensive crisis on patients taking MAO inhibitors.
Side Effects:	Restlessness, tremors, hypertension, PVC's.
Drug Interactions:	Patients on beta-blockers may be refractory to Albuterol treatments. Overuse of Albuterol inhalers may cause paradoxical bronchospasm.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 3 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Aspirin

Class - Anti-platelet agent

Indications:	<u>Known or suspected AMI</u>
Contraindications:	<u>Known sensitivity to the drug, bleeding disorders, thrombocytopenia.</u>
Action:	<u>Prolongs the clotting sequence by interfering with the release of ATP.</u>
Side Effects:	<u>Tinnitus, GI bleeding, hemolysis, non-cardiogenic pulmonary edema, anaphylaxis, laryngeal edema.</u>
Notes:	<u>Alkalization of the urine will promote ASA excretion in overdose situation.</u>

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 4 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Ativan (Lorazepam) Class - Anticonvulsant, Sedative

Indications:	Anxiety, Sedation, Status epilepticus, and pre-medication prior to cardioversion.
Contra-Indications:	Known sensitivity to the drug, acute narrow angle glaucoma, respiratory insufficiency.
Action:	Interacts with the (gamma)-aminobutyric acid (GABA)-Benzodiazepine receptor complex. Exhibits relatively high and specific affinity for its recognition site but does not displace GABA. Attachment to the specific binding site enhances the affinity of GABA for its receptor site on the same receptor complex.
Side effects:	Respiratory depression, N/V, drowsiness, restlessness, delirium, be prepared to ventilate patient.
Precautions:	Narrow angle glaucoma, depression or psychosis, coma, shock, acute alcohol intoxication, renal or hepatic impairment, organic brain syndrome, myasthenia gravis, GI disorders, elderly, debilitated, limited pulmonary reserve (COPD).
Notes:	Overdose may be reversed with flumazenil.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 5 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Atropine

Class - Parasympatholytic

Indications:	Atropine is used for the treatment of symptomatic Bradycardia, high degree AV blocks, organophosphate poisonings, and during rapid sequence intubation to decrease secretions and Bradycardia.
Contraindications:	Pediatrics < 5 kg, and during heat stroke. Known sensitivity to the drug.
Actions:	This parasympathetic medication inhibits acetylcholine action at the synaptic level and is used for treatment during symptomatic Bradycardia, AV blocks and organophosphate poisoning.
Cardiac:	Decreases parasympathetic tone secondary to defibrillation or other electrical shock, vagal stimulation, hypoxemia, etc. Increases AV conduction, increases SA nodal automaticity
Organophosphates:	Decreases vagal tone, increases heart rate, decreases bodily secretions, acts as a spasmolytic on the GI & GU tracts
Side Effects:	Blurred vision, drowsiness, dry mouth, mydriasis, paradoxical Bradycardia (when given slow IV piggyback or in doses < 0.1 mg), Tachycardia
Additional Pediatric	Dose < 0.1 mg will cause paradoxical Bradycardia.
Considerations:	Catecholamine infusion should be considered for symptomatic Bradycardia and AV blocks that have not responded to oxygen therapy. Post intubation “relative Bradycardia” should be treated with Atropine after refractory hyperventilation.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 6 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Atrovent (Ipratropium Bromide) Class -Anticholinergic

Indications:	Atrovent is administered with other bronchodilators (Albuterol) and is indicated as a bronchodilator for the maintenance of bronchospasm associated with COPD, chronic bronchitis, asthma, and emphysema.
Contraindications:	Known sensitivity to the drug.
Actions:	Inhibits mediated vagal reflexes by antagonizing the action of acetylcholine, the transmitter agent released from the Vagus nerve. The bronchodilation is primarily a site-specific effect not systemic.
Side Effects:	Tachycardia, palpitations, headache, and dry mouth.
Drug Interactions:	Atrovent has been proven safe and effective when used with Beta-adrenergic (Albuterol) bronchodilators and corticosteroids (Solu-Medrol).

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 7 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Benadryl (Diphenhydramine) Class – Antihistamine

Indications: Allergic diseases as hay fever, urticaria, angioedema, contact dermatitis, pruritus, physical allergies, reaction to contrast media, and allergic medication reactions; also useful for nausea vomiting, motion sickness.

Contraindications: Known sensitivity to the drug.

Actions: Diphenhydramine hydrochloride is an antihistamine with anti-cholinergic and sedative side effects. Antihistamines compete with histamine for the cell receptor sites.

Side Effects: Drowsiness, dizziness, dry mouth, blurring vision, and headaches.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 8 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Brethine (Terbutaline)

Class – Beta-adrenergic agonist bronchodilator

Indications:	Bronchospasm, with decreased tidal volume, secondary to bronchial asthma, bronchitis and emphysema. Also may be used for tocolysis for OB patients with prolapsed cords.
Contraindications:	Known sensitivity to the drug.
Cautious Use:	Patients with treatable hypertension. Patients currently taking MAO inhibitors or tricyclic antidepressants may experience hypersensitive side effects. May cause hypoglycemia in near-term pregnancy.
Actions:	Although not as selective as Albuterol, Brethine is predominantly a Beta-2 agonist. Administration causes the release of cyclic Adenosine Monophosphate (cAMP), with subsequent bronchodilation. As a tocolysis, Brethine will stop uterine contractions.
Side Effects:	Nervousness, headache, hypertension, tachycardia, nausea and vomiting.
Drug Interactions:	Overuse of Brethine inhalers by the patient may cause paradoxical bronchospasm .
Additional Info:	Fetal hypoglycemia, and maternal pulmonary edema are side effects from terbutaline tocolysis. Thus, monitor maternal blood glucose, SpO ₂ , and lung sounds frequently.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 9 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Calcium Chloride Class -Electrolyte

Indications:	Known calcium channel blocker overdose, known magnesium sulfate overdose, PEA secondary to calcium channel blocker overdose, hyperkalemia, and skin exposure to hydrofluoric acid.
Contraindications:	Ventricular Fibrillation.
Actions:	Suppresses tissue inflammation; has wide ranging intense metabolic effects.
Drug Interactions:	Mixture with sodium bicarbonate at the IV port will cause precipitates to form.
Side Effects:	Bradycardia, cardiac arrest, hypercalcemia.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 10 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cardizem (Diltiazem) Class - Calcium Channel Blocker

Indications:	Atrial fibrillation or flutter, paroxysmal supraventricular tachycardia, Hypertension control
Contraindications:	Sick sinus syndrome/second or third-degree AV block except in the presence of a functioning pacemaker, severe hypotension or Bradycardia, patients with hypersensitivity, newborns (due to presence of benzyl alcohol)
Actions:	Inhibits the influx of calcium ions during membrane depolarization of cardiac and vascular smooth muscle. The therapeutic benefits of Cardizem in SVT are related to its ability to slow AV nodal conduction time and prolong AV nodal refractoriness. Cardizem slows the ventricular rate in patients with a rapid ventricular response during Atrial Fibrillation or flutter by interrupting the reentry circuit in AV nodal reentrant Tachycardia and/or reciprocating Tachycardia (i.e. Wolff-Parkinson-White Syndrome WPW)
Drug Interactions:	Non-compatible with: acetazolamide, acyclovir, cefoperazone sodium, diazepam, furosemide, phenytoin, and rifampin.
Side Effects:	PVCs, hypotension, Bradycardia, and congestive heart failure
Additional notes:	Precaution should be taken when administering Cardizem to patients on oral Beta-Blocker therapy. These patients are subject to a Bradycardia rhythm.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 11 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Cordarone (Amiodarone) Class – Antiarrhythmic

Indications:	Treatment and prophylaxis of frequently recurring Ventricular Fibrillation and hemodynamically unstable Ventricular Tachycardia.
Contraindications:	Known sensitivity to the drug.
Actions:	Cordarone blocks sodium channels, blocks myocardial potassium channels, which contributes to the slowing of conduction and prolongation of refractoriness. Cordarone prolongs intra-nodal conduction and refractory of the atrioventricular node; but has little or no effect on sinus cycle length.
Side Effects:	Hypotension and Bradycardia.
Drug Interactions:	Cordarone is incompatible with aminophylline, heparin sodium, and sodium bicarbonate. Mixture with these drugs at the IV port will cause precipitates to form.
Additional Info:	Cordarone is administered over 10 minutes in patients that have a pulse.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 12 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Oral Glucose/
10% Dextrose in H₂O
Class - Carbohydrate Hyperglycemic

Indications: Hypoglycemia indicated by test strip or signs and symptoms.
 Contraindications: Known CNS bleeding.
 Actions: Provides calories.
 Side Effects: Local pain and irritation at the IV site – secondary to solution being hypertonic.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 13 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Dopamine

Class - Adrenergic inotropic/chronotropic vasopressor)

Indications:	Cardiogenic hypotension in the absence of hypovolemia.
Contraindications:	Uncorrected hypovolemia, tachyarrhythmia, pheochromocytoma.
Actions:	< 5 mcg/kg/min – renal and mesenteric effects
	5 –10 mcg/kg/min – Primarily Beta adrenergic. Increases conduction, heart rate, and contractility.
	10 – 20 mcg/kg/min – Primarily Alpha adrenergic. Renal, mesenteric, peripheral venous and arterial constriction.
	20 mcg/kg/min – Alpha adrenergic, similar to norepinephrine.
Side Effects:	Arrhythmias, hypertension, increased myocardial oxygen demand, ectopy, C/P, SOB, N&V, localized tissue necrosis.
Drug Interactions:	Use on patients taking MAO inhibitors may produce hypertension.
Notes:	Consider low-alpha dosages for patients with HR > 130 bpm.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 14 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

DuoNeb
Class- β 2-adrenergic bronchodilator (Albuterol)/
anticholinergic bronchodilator (Atrovent)

Indications: treatment of bronchospasm associated with COPD in patients requiring more than one bronchodilator.

Contraindications: Known sensitivity to the drug.

Actions: reducing bronchospasm (COPD) relaxing the muscles around the airways through two distinctly different mechanisms: sympathomimetic (albuterol sulfate) and anticholinergic/parasympatholytic (ipratropium bromide).

Side Effects: Restlessness, tremors, hypertension, PVC's Tachycardia, palpitations, headache, and dry mouth.

Drug Interactions: Patients on beta-blockers may be refractory to Albuterol treatments. Overuse of Albuterol inhalers may cause paradoxical bronchospasm.

Notes: Do not get medication into eyes, causes blurry vision.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 15 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> <u>*TR1 contact</u> <u>***MD1 contact</u>		

Epinephrine

Class - Alpha/Beta Adrenergic Agonist

Indications:	Anaphylaxis, cardiac arrest.
Contraindications:	None
Actions:	Epinephrine is a catecholamine that stimulates both alpha and beta adrenergic receptors. Epinephrine administration will produce bronchodilatation, increased CNS response, peripheral, cerebral, and coronary artery constriction, as well as chronotropic, dromotropic, and inotropic responses.
Side Effects:	Nervousness, tremors, HTN, arrhythmias, nausea and vomiting.
Drug Interactions:	Use on patients taking MAO inhibitors may lead to HTN crisis.
Notes:	Epinephrine drastically increases myocardial oxygen demand.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 16 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Etomidate (Amidate) Class - General anesthetic

Indication:	Induce sedation for rapid sequence intubation.
Contra-Indications:	Known sensitivity to the drug.
Caution:	Patients with known or suspected kidney or liver disease.
Actions:	Hypnotic with no analgesic activity appears to act like GABA and is thought to exert its mechanism by depressing the activity of the brain stem reticular system. Minimal CV and respiratory depressant effects. Onset: 1 min. Duration: 3-5 min. Patient usually awakes fully in 7 – 14 minutes.
Side effects:	Skeletal muscle: Myoclonic skeletal movements, tonic movements, Respiratory: Apnea of short duration, hyperventilation or hypoventilation, Laryngospasm. CV: hypertension or hypotension, tachycardia or Bradycardia, arrhythmias.
Precautions:	Marked hypotension, severe asthma, or severe cardiovascular disease.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 17 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Fentanyl (Sublimaze) Class - Narcotic Analgesic

Indications:	Used in rapid sequence induction, management in burns and orthopedic injuries.
Contraindications:	Known sensitivity to the drug.
Actions:	Binds with the opiate receptor in the CNS. IV onset time is 1 –2 minutes Peak effects time 3 – 5 minutes Duration of effects 30 – 60 minutes
Side Effects:	Respiratory depression, muscle rigidity, primarily chest wall muscles , hypotension, Bradycardia, somnolence/confusion, seizures, arrhythmias, effects potentiated by alcohol and other CNS depressants, may cause cardiovascular depression.
Drug Interactions:	Effects potentiated by alcohol and other CNS depressants.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 18 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Glucagon Class - Hormone

Indications:	Hypoglycemia without IV access, beta-blocker OD.
Contraindications:	None in the emergent setting.
Actions:	A pancreatic alpha cell hormone, Glucagon causes a rapid hepatic conversion of glycogen stores. Additional therapeutic effects include: smooth muscle relaxation, and an endogenous catecholamine release with chronotropic, dromotropic, and inotropic effects.
Side Effects:	Nausea and vomiting depletes glycogen stores.
Drug Interactions:	<i>Non-compatible</i> with 0.9% NaCl or Chloride containing solutions (precipitate will form). When given for a beta-blocker OD, IV Glucagon must be reconstituted with sterile water and administered via a re-seal, or administered via the closest y-site of a D ₅ W line.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 19 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> <u>*TR1 contact</u> <u>***MD1 contact</u>		

Lasix (Furosemide) Class – Diuretic

Indications:	Pulmonary edema and congestive heart failure.
Contraindications:	Known sensitivity to the drug and states of severe electrolyte depletion.
Actions:	Lasix is a potent diuretic that inhibits the reabsorption of sodium and chloride in the proximal tubule and loop of Henle.
Side Effects:	Hypotension, chest pain, dry mouth, hypokalemia, hypochloremia, hyponatremia, hyperglycemia.
Drug Interactions:	Digitalis toxicity may be potentiated by the potassium depletion that can result from Furosemide.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 20 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Lidocaine

Class - Anti-arrhythmic

Indications:	Second line treatment of ventricular ectopy, V-Tach, V-Fib, and utilized in rapid sequence induction.
Contraindications:	High degree AV blocks, known sensitivity to the drug.
Cautious Use:	Decrease dosage by ½ for patients with known or suspected hepatic disease, CHF, SBP < 100 mmHg, and geriatrics.
Actions:	By altering Na ⁺⁺ flux across membranes Lidocaine decreases tissue automatically and subsequent ventricular depolarization. Additionally, Lidocaine prevents transient ICP due to stimulation during airway management and risk of laryngospasm during rapid sequence induction.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 21 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Lopressor (Metoprolol Tartrate)

Class – Beta-Blocker

Indications:	Unstable angina, acute coronary syndromes, and AMI.
Contraindications:	High degree AV blocks, heart failure, hypotension, Bradycardia, severe bronchospasm or respiratory disease (i.e., prescription steroids).
Cautious Use:	Pregnancy, Allergies, Depression, Diabetes, Kidney or Liver Disease, Psoriasis, and Myasthenia Gravis.
Actions:	This class of anti-hypertensive medication prevents high blood pressure by reducing the body's sensitivity to certain chemicals produced by the sympathetic nervous system that cause blood vessels to contract, and blood pressure to go up. It is not entirely clear how Lopressor works to reduce vascular headaches and tremors.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 22 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Magnesium Sulfate

Class- Electrolyte Modifier/Anticonvulsant

Indications:	Eclampsia, refractory VF, PVT, Torsades de Pointes.
Contraindications:	Heart block, hypocalcemia, allergy to sulfa.
Actions:	Major cat ion that affects neurotransmission and muscle excitability. Hypomagnesemia can cause V-Fib by inhibiting the replacement of intracellular potassium.
Side Effects:	Respiratory depression, Bradycardia, hypotension, hypothermia.
Drug Interactions:	Calcium Chloride will reverse magnesium untoward effects.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 23 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Morphine Sulfate

Class- Narcotic Analgesic

Indications:	Anxiety and pain associated with AMI, pulmonary edema, treatment of severe pain secondary to injury or disease.
Contraindications:	Hypersensitivity to opiates, acute abdomen, head injury, hypotension, allergy to sulfa.
Actions:	Alters perception of and response to painful stimuli by binding to opiate receptors.
Drug Interactions:	Additive CNS depression may occur when MS is administered in combination with antihistamines, alcohol, or hypnotics. MS may cause extreme severe reactions when given to patients who take MAO inhibitors. <i>Narcan</i> will reverse respiratory depression caused by opiate and/or opiate overdose; however, it <i>will not</i> reverse opiate induced hypotension.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 24 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Narcan Class - Narcotic Antagonist

Indications:	Coma of unknown origin, symptomatic (decreased CNS/respirations) narcotic overdose.
Contraindications:	Known sensitivity to the drug.
Cautious Use:	Patients who are physically dependent on narcotics may experience severe withdrawal symptoms.
Action:	Competitively binds to CNS opiate receptors.
Side Effects:	VT, VF, hypotension, hypertension, N&V, seizure activity.
Drug Interactions:	Narcan's action is shorter in duration than narcotics; due to the competitive binding, repeat doses may be required. Narcan will reverse respiratory depression caused by opiate and/or opiate overdose; however, it <i>will not</i> reverse opiate induced hypotension.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 25 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Nitroglycerin – SL/Paste **Class -Anti-anginal/Vasodilator**

Indications: Angina pectoris, CHF.

Contraindications: Hypersensitivity, head trauma, CVA, pregnancy, SBP < 100 mmHg.

Note: Call MD 1 for nitroglycerin administration if patient has taken Viagra, Cialis, Levitra or other vasodilating sexual enhancement medication within the last 24 hours.

Actions: Increases coronary blood flow, with secondary increases in collateral blood flow to the ischemic regions of the myocardium. Vasodilatation produces decreased pre-load, after-load, and increased cardiac output. Additionally, NTG will decrease myocardial oxygen demand.

Side Effects: Headache, dizziness, hypotension, Tachycardia, syncope, N&V.

Drug Interactions: Severe additive hypotension is possible if used concurrently with anti-hypertensives.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 26 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Norcuron (Vecuronium Bromide)

Class – Non-depolarizing Neuromuscular Blocking Agent

Indications:	As an adjunct to general anesthesia, to facilitate endotracheal intubation and to provide skeletal muscle relaxation during surgery or mechanical ventilation.
Contraindications:	Known sensitivity to the drug. Pregnant and lactating women, since reproductive studies in animals have not yet been performed.
Actions:	Vecuronium is a non-depolarizing neuromuscular blocking agent possessing all of the characteristic curariform pharmacological actions (cause collapse due to neuromuscular paralysis but without loss of consciousness) of this class of drugs. It acts by competing for cholinergic receptors at the motor end-plate. The antagonism to acetylcholine is inhibited and neuromuscular block is reversed by acetylcholinesterase inhibitors such as neostigmine, edrophonium, and pyridostigmine.
Side Effects:	The most frequent adverse reaction to non-depolarizing blocking agents as a class consists of an extension of the drug's pharmacological action beyond the time period needed for surgery and anesthesia. This may vary from skeletal muscle weakness to profound and prolonged skeletal muscle paralysis resulting in respiratory insufficiency or apnea.
Drug Interactions:	Parenteral/intraperitoneal administration of high doses of certain antibiotics may intensify or produce a neuromuscular block on their own. The following antibiotics have been associated with various degrees of paralysis: aminoglycosides (such as neomycin, streptomycin, kanamycin, gentamicin, and dihydrostreptomycin); tetracyclines; bacitracin; polymyxin B; colistin; and sodium colistimethate. If these or other newly introduced antibiotics are used in conjunction with Vecuronium during surgery, unexpected prolongation of neuromuscular block should be considered a possibility.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 27 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Sodium Bicarbonate (8.4%) Class - Systemic Hydrogen Ion Buffer

Indications:	Pre-existing metabolic acidosis, urine alkalization, secondary to ASA, barbiturate or tricyclic overdoses.
Contraindications:	Respiratory acidosis, metabolic or respiratory alkalosis, excessive chloride losses.
Side Effects:	Metabolic alkalosis, phlebitis, tetany.
Drug Interactions:	Incompatible with LR solution, avoid contact with catecholamines.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 28 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Solu-Medrol (Methylprednisolone Sodium Succinate) Class - Glucocorticoid

Indications:	Treatment for bronchial asthma, allergic reactions and other bronchial related disorders.
Actions:	Relieves inflammation that causes other symptoms.
Contraindications:	Known hypersensitivity to the drug, systemic fungal infections and premature infants.
Side Effects:	Gastritis, heartburn, metallic taste, if administered to fast flushing and increased heart rate.
Drug Interactions:	Hypoglycemic responses to insulin and oral hypoglycemic agents may be blunted. Potassium-depleting agents may potentiate hypokalemia induced by corticosteroids.
Precautions:	Psychiatric derangements
Notes:	In pregnancy and tuberculosis, must weigh risk/benefit ratio.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 29 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Succinylcholine (Anectine)

Class – Short Acting, Depolarizing Paralytic

Indications:	Used to paralyze combative patients for the purpose of obtaining endotracheal intubation.
Contraindications:	Known sensitivity to the drug, narrow angle glaucoma.
Actions:	Rapid acting neuromuscular transmission blocking agent. Achieved by acetylcholine blockade at the myoneural junction. Succinylcholine has agonistic properties initially, causing muscle fasciculations, before blocking all neuromuscular impulses.
Side Effects:	Hypotension, arrhythmias, bronchospasm (secondary to systemic histamine release), apnea , hypertension.
Drug Interactions:	The following drugs will potentiate the effects of succinylcholine: aminoglycoside antibiotics, polymyxin-B, colistin, clindamycin, lidocaine, quinidine, procainamide, beta-blockers, non-potassium sparing diuretics, and magnesium. Succinylcholine has <i>no</i> analgesic or anxiolytic effects. Succinylcholine <i>will not</i> alter LOC. Apnea and jaw relaxation indicate that the patient is sufficiently paralyzed to proceed with endotracheal intubation.
Precautions:	May cause Hyperkalemia in Renal Failure and severe burn patients.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 30 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Tetracaine (Pontocaine) Class – Local Anesthetic

Indications:	For temporary relief of pain associated with minor abrasions or chemical spray to the eyes.
Contraindications:	Globe penetrations, explosion injuries.
Actions:	Numbs eye to relieve pain.
Side Effects:	Anxiety, restlessness, confusion, dizziness, blurred vision, nausea and vomiting.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 31 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Tridil (IV Nitroglycerin) **Class - Nitrate/Vasodilator**

Indications:	Controlled treatment of unstable angina, AMI, and CHF.
Contraindications:	Known sensitivity to the drug, head trauma, CVA, pregnancy, SBP < 100 mmHg. Note: Call MD 1 for nitroglycerin administration if patient has taken Viagra, Cialis, Levitra or other vasodilating sexual enhancement medication within the last 24 hours.
Action:	Increases cardiac blood flow via dilation of coronary arteries and myocardial collateral circulation, decreases pre-load and after-load, decreases mVO ₂ .
Side Effects:	Headache, dizziness, hypotension, tachycardia, N&V.
Drug Interactions:	Synergistic hypotension may occur when combined with alcohol, beta-blockers, calcium channel blockers, Haldol, and phenothiazine.

	Document: Medical Protocols	Approved by: Ian Kemp Fire Chief	Initial Issue Date: March 21, 2005
	Subject: Drug Reference		Last Revision Date: September 28, 2016
			Page: 32 of 32
	Accreditation Ref: 5G.5		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Zofran (Ondansetron) Class - Antiemetic

Indications:	Treatment and prevention for nausea vomiting. Also used in conjunction with Morphine / Fentanyl to prevent resulting nausea.
Contraindications:	Known sensitivity to the drug, GCS < 15.
Caution:	Liver impairment, pregnancy.
Actions:	Zofran blocks the action of chemicals in the body that can trigger nausea and vomiting.
Side Effects:	Constipation, dizziness, dry mouth, blurring vision, fatigue and headaches.

	Document: Emergency Operations	Approved by: B. Keith Chapman Fire Chief	Initial Issue Date: January 23, 2012
	Subject: A 3.3.2.3.11 Tactical Medical Protocol		Last Revision Date:
			Page: 1 of 7
	Accreditation Ref:		
	Special Notes: <u>All underlined text is BLS</u> *TR1 contact ***MD1 contact		

Purpose:

The purpose of this section is to give medical guidance to personnel who must provide medical treatment to casualties involved in law enforcement/tactical situations. **The use of the protocol is restricted to Temple Terrace SWAT Paramedics.**

Zones of Care:

There are three recognized zones of care.

- 1) **Care Under Fire** (Hot Zone)
 - Immediate threats to life exist.
- 2) **Tactical Field Care** (Warm Zone)
 - No immediate threat to life exists, but the possibility of threats exists.
- 3) **Normal Field Care** (Cold Zone)
 - No immediate threat to life exists and the probability of threat is minimal.

Care Under Fire (Hot Zone):

NOTE: Due to the immediate threat of life in this zone of care. It is not appropriate to treat injury or illness which is not life-threatening to the patient.

- 1) Return fire and take cover.
- 2) Direct casualty to move to cover and apply self-aid if able.
- 3) Extricate casualty, under cover, as soon as possible.

Airway Management

- 1) Airway management is typically deferred until the Tactical Field Care zone (Warm Zone) is entered.
- 2) Should the proper cover be available, the following techniques may be deployed:
 - a. NPA
 - b. OPA
 - c. BVM
 - d. Surgical Cricothyroidotomy



Document:
Emergency Operations

Subject:
A 3.3.2.3.11 Tactical Medical
Protocol

Accreditation Ref:

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Approved by:
B. Keith Chapman
Fire Chief

Initial Issue Date:
January 23, 2012

Last Revision Date:

Page: 2 of 7

Cardiopulmonary Resuscitation

Due to the high mortality rate of patients with blunt trauma or penetrating trauma in these situations, casualties who are pulse less, apneic, and show no signs of life should be considered unable to resuscitate and therefore resuscitative efforts are not necessary.

Hemorrhage Control

- 1) Stop ***Life-Threatening*** external hemorrhage if tactically feasible
 - a. Direct casualty to control hemorrhage by self-aid if able.
 - b. Tourniquet (applied over the uniform for quickness).
 - c. Hemostatic Gauze.

Spinal Motion Restriction (SMR)

Due to the immediate threat of life in this zone of care, SMR may be avoided. However, if cover permits, attempts should be made to move or drag casualties along the long axis of their body.

Trauma Related Respiratory Distress

- 1) Respiratory Distress is typically deferred until the Tactical Field Care zone (Warm Zone) is entered.
- 2) Should the proper cover be available, the following techniques may be deployed:
 - a. Chest Seal.
 - b. Needle Decompression.

Additional Considerations

All procedures identified in this protocol should be performed in accordance with Temple Terrace Fire Departments Medical Protocols, taking into consideration limited and tactical equipment, tactical awareness, and extreme environments.



Document:
Emergency Operations

Subject:
A 3.3.2.3.11 Tactical Medical
Protocol

Accreditation Ref:

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Approved by:
B. Keith Chapman
Fire Chief

Initial Issue Date:
January 23, 2012

Last Revision Date:

Page: 3 of 7

Tactical Field Care (Warm Zone):

Airway Management

- 1) Should the proper cover be available, the following techniques may be deployed:
 - a. NPA
 - b. OPA
 - c. BVM
 - d. King Airway
 - e. Surgical Cricothyroidotomy
 - f. Mechanical Suction

Burns

NOTE: Aggressively monitor airway status in facial burn casualties. Early surgical airway should be considered.

- 1) Should the proper cover be available, the following techniques may be deployed:
 - a) Stop burning process and prevent loss of body heat
 - b) Sterile Burn Dressing
 - c) IV/IO Access
 - d) IV fluid
 - e) Fentanyl
1-3 mcg/kg IV / IO

NOTE: A BP which supports peripheral pulses must be maintained

- f) Zofran
Adult – 4 mg IV / IO / IM
Pedi – 2 mg IV / IO / IM

NOTE: If given too fast, it may cause syncope

- g) Treatment for Hemorrhagic Shock takes precedence over treatment for Burn Shock.



Document:
Emergency Operations

Subject:
A 3.3.2.3.11 Tactical Medical
Protocol

Accreditation Ref:

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Approved by:
B. Keith Chapman
Fire Chief

Initial Issue Date:
January 23, 2012

Last Revision Date:

Page: 4 of 7

Cardiopulmonary Resuscitation

Due to the high mortality rate of patients with blunt trauma or penetrating trauma in these situations, casualties who are pulse less, apneic, and show no signs of life should be considered unable to resuscitate and therefore resuscitative efforts are not necessary.

Fluid Resuscitation

NOTE: Hemorrhagic Shock is a primary concern in these situations.

- 1) Should the proper cover be available, the following techniques may be deployed:
 - a) IV/IO access
 - b) IV fluid to maintain peripheral pulses

Fractures

- 1) Should the proper cover be available, the following techniques may be deployed:
 - a) Splinting
 - b) IV/IO Access
 - c) IV fluid to maintain peripheral pulses
 - d) Fentanyl
1-3 mcg/kg IV / IO
NOTE: A BP which supports peripheral pulses must be maintained.
 - h) Zofran
Adult – 4 mg IV / IM / IO
Pedi – 2 mg IV / IM / IO
NOTE: If given too fast, it may cause syncope.

Hemorrhage Control

- 1) Should the proper cover be available, the following techniques may be deployed:
 - a) Direct Pressure
 - b) Pressure Dressing
 - c) Tourniquet
 - d) Hemostatic Gauze



Document:
Emergency Operations

Subject:
A 3.3.2.3.11 Tactical Medical
Protocol

Accreditation Ref:

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Approved by:
B. Keith Chapman
Fire Chief

Initial Issue Date:
January 23, 2012

Last Revision Date:

Page: 5 of 7

Penetrating Injuries

1) Should the proper cover be available, the following techniques may be deployed:

- a) If item is impaled, attempts to stabilize item in place should be made.
- b) Hemorrhage Control (if needed)
- c) Chest Seal (if needed)
- d) Needle Decompression (if in respiratory distress)

Spinal Motion Restriction (SMR)

Attempts to maintain SMR should be considered if cover permits. If not, attempts should be made to move or drag casualties along the long axis of their body.

Trauma Related Respiratory Distress

1) Should the proper cover be available, the following techniques may be deployed:

- a) Chest Seal
- b) Needle Decompression

Additional Considerations

All procedures identified in this protocol should be performed in accordance with Temple Terrace Fire Departments Medical Protocols, taking into consideration limited and tactical equipment, tactical awareness, and extreme environments.

Normal Field Care (Cold Zone):

- a) TTFD's standing Medical Protocols are applied to patient care in this zone.
- b) Efforts to coordinate transport of casualty should be made.
- c) Proper resources should be utilized.
- d) Proper radio transmissions should be made.



Document:
Emergency Operations

Subject:
A 3.3.2.3.11 Tactical Medical
Protocol

Accreditation Ref:

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Approved by:
B. Keith Chapman
Fire Chief

Initial Issue Date:
January 23, 2012

Last Revision Date:

Page: 6 of 7

Specialty Equipment and Procedures (not identified in TTFD's standing Medical Protocol)

Pressure Bandage

- a) A large elastic bandage which is applied to large wounds in which hemorrhage is controlled with direct pressure.

Tourniquet

- a) Used to control otherwise uncontrollable bleeding from extremities
- b) Apply over the uniform in extreme environments or directly to the skin when cover and time permits.
- c) Apply tourniquet 2-3 inches above wound. **NOTE TIME OF PLACEMENT**
- d) When time and tactical situation permits, a distal pulse checked to determine effectiveness of tourniquet. If distal pulse is still present then tourniquet may be tightened.
- e) If hemostatic gauze can be applied to wound, immediately after bleeding has been controlled by tourniquet and it is effective, then tourniquet may be removed.

Hemostatic Gauze

- a) A gauze which has been combined with an agent that will effectively control major bleeding.
- b) Identify and cover the source of bleeding with the gauze, apply direct digital pressure to the source of bleeding.
- c) Pack dressing completely into the wound track using enough gauze to fill the wound and contact all bleeding surfaces. More than one dressing may be required.
- d) Apply pressure until bleeding is controlled.
- e) Wrap and secure gauze on wound with Pressure Bandage.

Surgical Cricothyroidotomy

- a) Palpate and locate the cricothyroid membrane anteriorly between the thyroid cartilage and the cricoid cartilage.
- b) Cleanse site with antimicrobial wipe.
- c) Stabilize larynx between thumb and index finger of non-dominant hand.



Document:
Emergency Operations

Subject:
A 3.3.2.3.11 Tactical Medical Protocol

Accreditation Ref:

Special Notes: All underlined text is BLS *TR1 contact ***MD1 contact

Approved by:
B. Keith Chapman
Fire Chief

Initial Issue Date:
January 23, 2012

Last Revision Date:

Page: 7 of 7

- d) Make a vertical or horizontal incision over the cricothyroid membrane and carefully incise through the skin.
- e) Puncture the cricothyroid membrane and carefully incise through the membrane transversely.
- f) Insert tracheal hook into the cricoid cartilage and lift upwards to stabilize and apply anterior displacement of the cricoid cartilage.
- g) Insert airway tube through the midline of the membrane and direct the tube distally into the trachea.
- h) Inflate the distal cuff with approximately 10 mL of air. Ventilate the patient to confirm correct tube placement and adequate ventilation.
- i) Secure the tube to the patient with tube securing strap to prevent dislodging.
- j) Confirm proper tube placement: auscultate breath sounds, absence of epigastric sounds, and observe chest rise.

APPROVED ABBREVIATIONS FOR DOCUMENTATION- last revised December 1, 2014

A

A&OX3	Alert & Oriented x3 (person,place,time)
A&OX4	Alert & Oriented X4 (person,place,time,event)
AAA	Abdominal Aortic Aneurysm
Abd	Abdomen
ABC	Airway, Breathing, circulation
ACLS	Advanced Cardiac Life Support
Adm	Admission
ALF	Assisted Living Facility
ALS	Advanced Life Support
AMA	Against Medical Advice
AMI	Acute Myocardial Infarction
APGAR	Appearance, Pulse, Grimace, Activity, Respiratory
ASA	Aspirin
ASAP	As soon as possible
@	At

B

BBB	Bundle Branch Block
BJA	Below Knee Amputation
BP	Blood pressure
BPM	Beats per minute
BS	Breath sounds
BVM	Bag-valve mask

C

C	Centigrade
Ca	Cancer
Ca++	Calcium
CAB	Coronary artery bypass
CAD	Coronary artery disease
Cath	Catheter, catheterization
CBC	Complete blood count
cc	Cubic centimeter
CC	Chief Complaint
CCU	Coronary care unit
CHF	Congestive heart failure
CHI	Closed head injury
Circ	Circulation
Cm	Centimeter
CNS	Central nervous system
CO ₂	Carbon dioxide
COLD/ COPD	Chronic obstructive lung disease pulmonary disease
CPAP	Continuous Positive Airway Pressure

C (Cont'd.)

CPR	Cardiopulmonary resuscitation
C-spine	Cervical spine
C-section	Cesarean section
CRF	Chronic Renal Failure
CSF	Cerebrospinal fluid
CSM	Carotid sinus massage
CT	Computerized Tomography
CTA	Clear to auscultation
CVA	Cerebral vascular accident
CVP	Central venous pressure
CXR	Chest X-Ray

D

DC/dc	discontinue
D & C	Dilation and curettage
Detox	detoxification
DIB	Difficulty in Breathing
DJD	Degenerative Joint Disease
DKA	Diabetic Ketoacidosis
dL	Deciliter
DM	Diabetes Mellitus
DOA	Dead on arrival (at hospital/at scene)
DOE	Dyspnea on exertion
DOS	Dead on scene
DT	Delirium Tremens
DVT	Deep Vein Thrombosis
Dx	diagnosis

E

ED	Emergency Department
ECG/EKG	Electrocardiogram
ENT	ear, nose throat
EOM	Extraocular movement
ETT	Endotracheal Tube
ETA	Estimated time of arrival
ETOH	Alcohol

F

F	Fahrenheit
FHR	Fetal Heart Rate
FB	Foreign body
FD	Fire Department
Fl	Fluid
Fx	Fracture

G

GB	Gallbladder
GC	Gonococcus or gonorrhea
GCS	Glasgow Coma Scale
GI	Gastrointestinal
Gm	Gram
Gr	Grain
GSW	Gunshot wound
Gtt(s)	Drops
GU	Genitourinary
GYN	Gynecology

H

H	Hour
HA	Headache
HB	Heart block
Hct	Hematocrit
Hg	Mercury
Hgb/Hb	Hemoglobin
H&P	History and physical exam
HR	Heart rate
Ht	Height
HTN	Hypertension
Hx	History

I

IC	Intracardiac
ICS	Intracostal space
ICU	Intensive Care Unit
I&D	Incision and drainage
IDDM	Insulin Dependent Diabetes Mellitus
IM	Intramuscular
Inf	Inferior
IVF	Intravenous fluids
IVP	Intravenous push

J

J	Joules
JVD	Jugular-venous distention

K

K+	Potassium
KVO	Keep vein open

L

L	Liter
Lac	Laceration
Lat	Lateral
LB	Large bore
Lb	Pound
LBBB	Left bundle branch block
LLL	Left lower lobe
LMA	Laryngeal Mask Airway
LMP	Last menstrual period
LLQ	Left lower quadrant
LOC	Loss of consciousness
LP	Lumbar Puncture
Lt	Left
LUL	Left Upper Lobe
LUQ	Left upper quadrant
LVH	Left ventricular Hypertrophy

M

MAE	Moves all extremities
mcg	Microgram
MCL	Midclavicular line
Meds	Medications
mEq	Milliequivalent
Mg	Magnesium
mg	milligram
MI	Myocardial infarction
mL	Milliliter
mm	Millimeter
MRI	Magnetic Resonance Imaging
MS	Multiple sclerosis
MSO4	Morphine sulfate
MVA	Motor vehicle accident

N

NA	Not applicable
NaCl/NS	Normal saline
NaHCO3	Sodium Bicarbonate
NEB	Nebulizer
NC	Nasal cannula
NIDDM	Non-Insulin Dependent Diabetes Mellitus
NKA	No known allergies
NPO	Nothing by mouth
NRBM	Non-rebreathing mask
NSR	Normal sinus rhythm
NVD	Nausea, vomiting, diarrhea

O

O2	Oxygen
OB	Obstetrics
Occ	Occasional
OD	Overdose
Ophth	Ophthalmology
OR	Operating room
Od	Right eye
Os	Left eye
Ou	Both eyes
Oz	Ounce

P

PAC	Premature atrial contraction
PALS	Pediatric Advanced Life Support
Para	Number of pregnancies
PAT	Paroxysmal atrial tachycardia
Path	Pathology
PCI	Percutaneous Coronary Intervention
PE	Physical exam
Peds	Pediatrics
PEEP	Positive End Expiratory Pressure
Per	By or through
PERL	Pupils equal and react to light
PERLA	Pupils equal, and react to light and accommodation
PG	Pregnant
PHTLS	Pre-Hospital Trauma Life Support
PID	Pelvic inflammatory disease
PMH	Past Medical History
PND	Paroxysmal nocturnal dyspnea
Po	By mouth
Pos	Positive
Post	Posterior
PSVT	Paroxysmal supraventricular tachycardia
Psych	Psychiatric
Pt	Patient
PTA	Prior to arrival
PVC	Premature ventricular contractions

R

RBBB	Right bundle branch block
RBC	Red blood cell
Resp	Respirations
RHD	Rheumatic heart disease
RLQ	Right lower quadrant

RO	Rule out
ROM	Range of motion
ROS	Review of systems
RUQ	Right upper quadrant
Rt	Right
RVH	Right Ventricular Hypertrophy
Rx	Take, treatment
S	
SL	Sublingual venous plexus
SOB	Shortness of breath
Sol	Solution
Sm	Small
SMR	Spinal Motion Restriction
SQ	Subcutaneous
Sup	Superior
STEMI	ST (segment) Elevated Myocardial Infarction
Sx	Sign/symptom
SVT	Supraventricular tachycardia
T	
TAB	Therapeutic abortion
TB	Tuberculosis
Tbsp	Tablespoon
Temp	Temperature
TIA	Transient ischemic attack
Tid	Three times a day
TKO	To keep open
TLC	Tender loving care
TM	Tympanic membrane
TMJ	Temporomandibular Joint
Tsp	Teaspoon
Tx	Treatment
U	
UA	Upon arrival, urinalysis
Unk	Unknown
URI	Upper-respiratory infection
US	Ultrasound
UTI	Urinary tract infection
V	
Vag	Vaginal
VD	Venereal disease
VF	Ventricular fibrillation
VS	Vital signs

VT	Ventricular tachycardia
W	
WAP	Wandering atrial pacemaker
WBC	White blood cells
WNL	Within normal limits
WPW	Wolfe Parkinson White syndrome
Wt	Weight
WO	Wide open
X	
X	Times
XS	Excessive
Y	
YO	Year old
Yr.	Years