Bellevue Fire Department

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Bellevue Fire Department

INTRODUCTION

Revised: September 2013 Protocol: 1-01	Job Classes: EMT, AEMT, Paramedic Category: GENOPS

1. This document is published by the Bellevue Fire Department to serve as the protocols for EMT-Bs, EMT-I's, and EMT-Ps on the Bellevue Fire Department.

2. This document utilizes current American Heart Association BLS, ACLS, and PALS guidelines. In addition, current PHTLS and ATLS guidelines are used when referring to trauma situations.

3. The following equipment and supplies will be carried on Bellevue Fire Department rescue squads on corresponding level of runs, in addition to other equipment mandated by the State of Nebraska in regulations relating to: Licensure of Emergency Medical Services, Title 172, NAC 12; and what is required by the Bellevue Fire Department Chief.

a. Communication capability to transmit voice by radio and/or telephone

b. Cardiac monitor/defibrillator with pacing and synchronized cardioversion capabilities

c. Intubation equipment:

- Advanced Airway secondary confirmation devices (esophageal detector devices, qualitative end-tidal CO2 indicators and capnographic/capnometric devices)

- Commercial securing devices for Advanced Airways

- Quicktrach cricothyrotomy kits

d. IV fluids - Normal Saline (0.9% Sodium Chloride), Dextrose 5% and 10% in Water

e. FDA approved blood glucose monitoring kit

4. The following medications:

Adenosine IV, IO	Fentanyl Citrate IV, IO, IN
Albuterol NEB*^	Glucagon IM ^
Amiodarone IV, IO	Hydroxocobalamin (Cyanokit) IV/IO
Aspirin (chewable baby aspirin PO)*^	Lidocaine IO
Ativan IV, IO, IN	Magnesium Sulfate IV, IO
Atropine IV, IO	Morphine Sulfate IV, IO, IN ^
Calcium Gluconate 10% IV, IO	Narcan IV, IO, IN ^
Dextrose 50% IV, IO ^	Nitroglycerin SL*^
Diazepam IM	Oral Glucose PO*^
Diphenhydramine IM, IV, or IO	Oxygen*^
Dopamine IV, IO	Proparacaine OS
DuoNeb NEB	Sodium Bicarbonate IV, IO
DuoDote IM	Succinylcholine IV, IO
Epinephrine SQ, IM, IV, IO or NEB ^	Vasopressin IV, IO
Epi-Pen and Epi-Pen, Jr IM *^	Zofran IV, IO, PO
Etomidate IV, IO	

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INTRODUCTION

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*May be administered by EMT-Basics trained to administer and approved to do so by the EMS Supervisor.

^ May be administered by Advanced EMTs (AEMT) trained to administer and approved to do so by the EMS Supervisor

Bellevue Fire Department

TRANSPORT GUIDELINES

Revised: September 2013
Protocol: 1-02

Job Classes: EMT, AEMT, Paramedic
Category: GENOPS

Transport Codes:

Code 1	Minimal or no apparent disease or injury. Patient transported for examination
Code 2	Obvious illness or injury, not serious but needs medical attention
Code 2 TCC	Trauma patient with an obvious injury but doesn't clearly meet the criteria for a Code 3 but enough questionable signs and symptoms or MOI exists to warrant the expertise of the Trauma Center
Code 3	Apparent serious injury or illness needing immediate medical attention/life threatening
Code 3 TCC	Trauma patient with an actual or potential life or limb threatening injury
Code 99	CPR in progress
Code 4	Dead Patient
Code 5	For suspected SIDS patient, (patient meets criteria for Code 4, transport is for the family/bystanders). CPR only (basic life support).

TCC (Trauma Center Candidate) - The patient will be transported directly to the Trauma Center of the Day. Notification of the nearest hospital is not necessary. See SECTION 4.11 for Trauma Center Candidate Criteria.

Trauma Center of the Day Schedule:

→The Nebraska Medical Center-Tuesdays, Friday, and Sundays

→Creighton University Medical Center-Mondays, Wednesday, Thursdays, and Saturdays

Transplant/Dialysis Patients – If a patient is identified as a transplant or dialysis patient, they should be taken to the hospital where they are currently receiving care. An exception is the patient who suffers a respiratory or medical cardiac arrest. In this case, the patient shall be taken to the closest hospital.

Use prudent judgment if a dialysis or transplant patient is resuscitated. Go to the institution that can best care for the patient (usually the hospital where they are currently receiving care).

Stroke Patients- If a patient is identified as an acute stroke patient, they should be taken to the closest available Stroke Center which is the Bellevue Medical Center.

The Bellevue Fire Department should transport patients to the closest appropriate hospital. If a patient or family absolutely refuses, Supervisor-1 must be contacted first, then the Asst. EMS Supervisors for permission to transport to a different facility.

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TRANSPORT GUIDELINES

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 1-02	Category: GENOPS

The Bellevue Fire Department is an emergency rescue service, not a transport service. Any request for non emergency transports should be referred to a private ambulance service. Phone numbers are available in the Medic Officers phone.

If a hospital diverts an incoming squad due to capacity issues, patient should be transported to the next closest appropriate hospital.

If the patient is stable and requests to go to another hospital other than the Bellevue Medical Center, refer to the Hospital Catchment Zone map to determine eligible facilities to transport too.

Patients with a behavioral disturbance that do not have any apparent injuries do not need to be transported by ambulance. These patients should be transported with law enforcement. If they have any injuries (cuts, drug OD, etc) then they should be transported by ambulance.

Any time a patient is a code 3 transport, unless they meet specialized criteria, they shall be transported to the Bellevue Medical Center as this is the closest facility.

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PEDIATRIC TRANSPORT CONSIDERATIONS

Revised: September 2013
Protocol: 1-03

Job Classes: EMT, AEMT, Paramedic
Category: GENOPS

Code 3 **medical** pediatric patients should be transported to the closest hospital.

Pediatric patients may be transported to Children's Hospital only if they have a specialized condition/illness that requires them to be seen at Childrens.

Pediatric patients who are Trauma Center Candidates, including extreme hypothermia, should be transported to the Trauma Center of the Day.

A pediatric patient is a patient up to and including 16 years of age.

Patients who are too small to be strapped onto the cot using the 3 belt system should be secured via the following devices:

- Pedimate
- Car Seat
- Pediatric restraint system in the Airway Seat

*It is never acceptable for a guardian to hold a patient during transport.

Bellevue Fire Department

PHYSICIAN ON SCENE

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 1-04	Category: GENOPS

When a physician is present on the scene and desires to direct patient care, paramedic personnel should:

a. Inform the physician that if the physician directs the run, the physician must accompany the patient to the hospital.

b. Inform the physician at the onset of the run that paramedic personnel have strict legal guidelines and established protocols and they may not exceed those guidelines or protocols.

c. Inform the physician that any procedure outside of these legal guidelines must be carried out by the physician him/herself.

d. Paramedic personnel have the right and obligation at any time there is gross deviation from the accepted protocol to contact the receiving hospital for further instruction. The physician on the scene should be informed if contact with the hospital is being made.

e. Only traditional medical practices will be allowed. At no time shall the physician perform non-traditional procedures. An example of non-traditional procedures include Chiropractic procedures , acupuncture, or spiritual healing.

f. If possible, it may be advisable to contact the receiving hospital via landline or cellular phone and have the receiving hospital physician speak directly to the physician at the scene.

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COMMUNICATIONS

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 1-05	Category: GENOPS

This protocol is designed to serve as standing orders for delivering patient care in the pre-hospital setting.

If at any point EMS personnel determines guidance is necessary, medical control at the receiving hospital should be contacted via radio, cellular phone, or landline.

When receiving orders from a Doctor, the paramedic should ensure that the Doctor states all of the following:

1. His/her name
2. The procedure to be performed
3. The dose of any drugs to be administered
4. The route of any drugs to be administered

Bellevue Fire Department

DO NOT RESUSCITATE

Revised: September 2013 Protocol: 1-06	Job Classes: EMT, AEMT, Paramedic Category: GENOPS

"DO NOT RESUSCITATE" (DNR) Orders and Identification of CPR Only (Adopted form "Nebraska EMS Model Protocols")

With the advent of individuals taking greater responsibility for their own health care, decisions made by the individuals themselves not to prolong their own life is valid and has become more common. Health Care Power of Attorney, Living Wills, and "Do Not Resuscitate" (DNR) orders are encountered frequently by Healthcare Providers. Occasionally, a family member will call 911 even when a DNR order exists or a Living Will is present. There are also times when Providers will arrive on scene, begin resuscitation procedures and a DNR or Living Will is discovered. This protocol is designed to provide guidance for such situations.

"DO NOT RESUSCITATE" (DNR) – A DNR is a written order by a physician stating that no cardiopulmonary resuscitation will be initiated. A DNR must be signed by a physician, dated, and have the patient's name on it. EMS Personnel can honor a DNR. The EMS provider must be identified on the patient care report.

Health Care Power of Attorney (HCPA) – is a legal document stating the name of the person the individual (patient) has named as a person who will make medical decisions for their care. It should be signed by the patient, the patient's attorney, and only applies to adults.

Living Will - This document states the patient's wishes should they require resuscitation with life support measures. The document must be signed by the patient and the patient's physician and only applies to adults.

1. EMS Providers will not initiate or continue cardiopulmonary resuscitation on a patient in cardiac arrest once a valid DNR order is confirmed. In the event of uncertainty, resuscitative measures should be initiated.

2. DNR does not mean the emergency medical care for any other medical condition will be changed or limited. Patients shall receive emergency medical treatment (BVM, airway management, IV therapy and pharmacology) up to the point of cardiac arrest.

3. Physicians may designate a patient as DNR by written order, verbally – when the physician is physically present at the scene or by telephone consult from the paramedic on scene to the patient's physician.

4. A written DNR order must contain the patients name and be signed by the physician or by the RN who received the order from the physician.

5. If a physician physically present at the scene designates the patient as a DNR, the paramedic shall ask they physician to document the DNR designation on the patient care report and sign it. If the physician refuses to document and sign the patient care report, the paramedic shall initiate resuscitative measures.

6. In a skilled care facility (nursing home), DNR orders documented in the patient's medical record are considered valid if signed by the physician or the RN for the physician. A DNR form may be used, but is not required in the nursing home setting. The EMS provider who observed the DNR order must be identified on the patient care report.

7. An EMS provider can honor an effective Living Will or Health Care Power of Attorney. This can be directly observed or communicated by a family member. BFD personnel shall have the family member attesting to the presence of the Living Will or HCPA state the presence in writing and sign the document to be filed with the patient care report. EMS Providers can presume the validity of either of these documents if signed in Nebraska. Documents from other states in compliance with that state's laws are also valid in Nebraska.

8. If the family desires CPR and/or resuscitation in the presence of a DNR or HCPA, the family's wishes shall be honored.

9. Observation of an original or a photocopy of a living will or health care power of attorney must be documented in the patient care report. An EMS Provider shall not honor a living will if there is no information or evidence that a physician has determined the patient in a terminal condition or in a persistent vegetative state. If there is information or evidence that a physician has determined the patient is in a terminal condition or persistent vegetative state, this information should be documented in the patient care report. The patient care report must also contain information that the patient is an adult (is 19 or older or has been married).

10. If a telephone consult with the patient's physician or the physician's designee verifies a DNR, the paramedic can honor the order. Authorization shall be documented on the patient care report and include the physician's or physician's designee name, telephone number, and time of the telephone call from the paramedic to the physician.

11. Once CPR has been initiated, resuscitative measures may be discontinued when any of the following occurs:
    a. A DNR or no code order is confirmed.
    b. A Living Will or HCPA for an adult is being followed.
    c. A physician physically present at the scene or medical director, based on information from the EMS provider on scene, determines that CPR is futile and should be discontinued.
    d. An EMS provider is following termination of CPR protocols that have been authorized by the Physician Medical Director.

e. When signs of late death or all early signs of death are identified, the paramedic may discontinue CPR if previously started (see Code 4 protocol). The paramedic will document a 60 second strip if no signs of late death are apparent.

Resuscitation of a DNR Patient- If inadvertently, a DNR patient is resuscitated, and in the absence of physician directives, care should be continued and the patient should be taken to the closest hospital.

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CODE 4 PATIENTS

Revised: September 2013
Protocol: 1-07

Job Classes: EMT, AEMT, Paramedic
Category: GENOPS

Personnel may be called to a scene where biologic and clinical death is apparent. In such cases, it is not necessary to begin resuscitation. Situations may also occur where CPR has been initiated on an obviously deceased patient prior to the arrival of EMS personnel. This protocol is intended to assist personnel in the identification of deceased patients.

Biologic Death – cell death as a result of lack of circulating oxygen and nutrients. Biologic death begins at 6 minutes for the brain at normal temperatures.

Clinical Death – pulseless, apneic and unresponsive patient.

Postmortem Lividity – is the discoloration of the body from seeping from the tissues and settling in the dependent parts of the body.

Putrefaction – decomposition of body tissues. Depending on temperature conditions, this occurs sometime between 40 and 96 hours after death.

Rigor Mortis – a biologic process where body muscles stiffen as a result of normal chemical changes that occur with cell death. The process develops first in the face and jaw, gradually extending downward until the body is in full rigor. Rigor mortis occurs sometime between 2 to 12 hours after death.

Wrinkled Cornea – as the fluid in the eye seeps out into the surrounding tissues after death, the cornea tension decreases, causing the corneas to wrinkle. This usually occurs between 6 and 12 hours after death.

If the patient meets the following code 4 criteria, EMS Providers may discontinue CPR or may choose not to initiate CPR.

Apparent death indications are as follows:

1. Patient with obvious lethal injury.

2. Patient with **one or more** of the signs of late death:
    a. wrinkled cornea
    b. rigor mortis
    c. postmortem lividity
    d. putrefaction

3. Patients with **all** the signs of early death:
    a. unresponsive to all stimuli
    b. no pulse and no respirations for greater than 20 minutes by accurate history
    c. no heart sounds
    d. pupils which are fixed and dilated/non-reactive to light (cataract surgery, drug overdoses, acute intoxication or glaucoma patients will alter papillary response)
    e. asystole on ECG monitor in all 3 leads (60 second strip)

NOTE: Care should be taken to rule out hypothermia, acute alcoholic intoxication and drug overdose. No patient will be declared Code 4 without a complete, hands on, physical evaluation.

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CODE 4 PATIENTS

Revised: September 2013
Protocol: 1-07

Job Classes: EMT, AEMT, Paramedic
Category: GENOPS

All of the above should be documented in the patient care report. The only exceptions to the above are the following:

1. Injury not compatible with life (must include detailed description of injuries)
2. Advanced whole body decomposition. Remember smell is NOT an advanced sign of death

Anytime the exceptions are used to declare death, the state of the body should also be documented in the narrative.

NOTE: Care should be taken to rule out hypothermia, acute alcoholic intoxication, and drug overdose.

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REFUSAL OF CARE

Revised: September 2013 Protocol: 1-08	Job Classes: EMT, AEMT, Paramedic Category: GENOPS

The patient has the right to refuse either or both care and transportation. However, personnel have both a moral and legal obligation to provide adequate medical care, according to the provider's level of training and certification, until the patient is delivered to the receiving hospital. In situations in which the patient is refusing care, the following guidelines shall be followed.

1. Adults

- An adult is an individual 19 years old or older or who is or has been married (NEB REV STAT §43-2101). A competent adult can refuse medical services and/or transportation to a health care facility.
- A legal guardian can consent to or refuse medical services and/or transportation to a health care facility for an incompetent adult.
- A person appointed as a Health Care Power of Attorney can consent or refuse consent for medical services and/or transportation to a health care facility for the incompetent adult named in the power of attorney.

2. Minors

A minor is an individual under 19 years of age that has never been married. A parent or legal guardian can consent or refuse consent on behalf of a minor, for medical services and/or transportation to a health care facility.

3. Documentation (required)

Each patient shall be given a minimal physical assessment consisting of pupil evaluation, level of consciousness, vital signs, lung sounds and/or respiratory rate and effort and a general head to toe physical exam (palpation as indicated). If a patient refuses to submit to a physical exam, the EMS provider in charge of patient care shall document this refusal in the narrative of the report.

The narrative shall document the following:

a. Results of the minimal physical assessment. Fill in the appropriate areas in the report.
b. Visual assessment, for example: "The patient is up and walking at the scene with no apparent injury."
c. Patient is alert, coherent and articulate, for example:
   alert – "The patient states his name, location and time of day correctly."

   coherent – "The patient is speaking in complete sentences with logical thought flow."

   articulate – "Speech is distinct."

Absence of any one of these may indicate insufficient ability to make good decisions. Therefore, all efforts to convince the patient to allow treatment / transport should be attempted.

NOTE: ETOH does NOT justify inaction. If after appropriate assessment, treatment is not necessary, contact law enforcement for transport to appropriate facility.

4. Reason for the patient's refusal, for example:

   "Patient states he has no pain, injury or medical problem." or "Patient refuses treatment / transport for religious reasons."

5. Attempt to get others involved, for example: "Family members also failed in efforts to encourage patient to be transported to the hospital."

6. Consequences explained, for example: "Patient informed that he may suffer serious physical harm or death as a result of not being treated / transported."

7. Alternatives explained, for example: "Patient instructed to use alternate means for transport, or if condition worsens or change of mind occurs, to call 911."

8. Concluding statement to each incident of patient refusal shall be the following: "Patient strongly advised to seek medical care as soon as possible."

9. Signature of patient and witness on refusal form. A valid witness shall be any family member of legal age, a police officer, bystander, or at the very least, another crew member on the call. If the patient refuses to sign the refusal form, then the person documenting the run shall note this in the narrative.

Complete documentation shall include all applicable portions of the report and the signature portion on the back. From a legal standpoint, this documentation shall provide the basic defense that appropriate actions were taken. Any omitted patient care documentation can be challenged whether or not appropriate care was actually provided at the time of the incident.

NOTE: If a patient needs treatment and/or transport to the hospital but the hospital of choice is **NOT** a hospital that BFD typically services (i.e. Immanuel Hospital, Veteran's Hospital, Mercy Hospital, Council Bluffs, etc) and the patient refuses care and transport by BFD, the person in charge shall attempt to contact private ambulance for transport. If a private ambulance service is called, the BFD medic unit should remain on the scene until the private ambulance arrives to transfer care of the patient, if patient is unstable as defined in BFD protocols, then the medic unit shall immediately transport the patient to the closest hospital. If patient is stable and refuses care and transport and signs the refusal form, BFD units may return to service.

Bellevue Fire Department

TERMINATION OF RESUSCITATION

Revised: September 2013 Protocol: 1-09	Job Classes: EMT, AEMT, Paramedic Category: GENOPS

When there is no response to prehospital cardiac arrest treatment, it is acceptable and often preferable to cease futile resuscitation efforts in the field.

1. In patients with cardiac arrest, prehospital resuscitation is initiated with the goal of returning spontaneous circulation before permanent neurologic damage occurs. Unfortunately, most patients do not respond to an aggressive resuscitation attempt. In most situations ALS practitioners are capable of performing an initial resuscitation that is equivalent to an in-hospital resuscitation attempt, and there is usually no additional benefit to emergency department resuscitation in most cases.

2. CPR that is performed during patient packaging and transport is much less effective than CPR done at the scene. Additionally, EMS personnel risk physical injury while attempting to perform CPR in a moving ambulance while unrestrained. In addition, continuing resuscitation in futile cases increases the time that EMS crews are not available for another call, impedes emergency department care of other patients, and incurs unnecessary hospital charges.

3. When cardiac arrest resuscitation becomes futile, the patient's family should become the focus of the EMS personnel. Families need to be informed of what is being done, and transporting all cardiac arrest patients to the hospital is an inconvenience and inconveniences the grieving family by requiring a trip to the hospital where they must begin grieving in an unfamiliar setting. Most families understand the futility of the situation and are accepting of ceasing resuscitation efforts in the field.

An ALS Provider may consider termination of resuscitation in the field when the following conditions have occurred:

- There is no response to at least 20 minutes of ACLS care including ventilation with advanced airway and several "rounds" of resuscitation drugs.

AND all three of the following are true

- There has been no return of spontaneous circulation
- The arrest was not witnessed by EMS personnel
- No shockable rhythm was witnessed

When the conditions above have been met and the ALS provider would like to terminate resuscitation on the patient, the ALS Provider must contact the closest hospital via phone and speak with medical direction. Medical direction must be informed of all pertinent patient history, history of the arrest, and the interventions attempted in the field and their outcome. The ALS provider must document in the PCR the time of call to medical direction, and the name and title of the physician approving the termination. Document time of death in PCR.

Bellevue Fire Department

TERMINATION OF RESUSCITATION

Revised: September 2013 Protocol: 1-09	Job Classes: EMT, AEMT, Paramedic Category: GENOPS

Consider continuing resuscitation and transporting patients with the following conditions (although under certain circumstances, a medical command physician may order termination of resuscitation in these conditions also):

1. Cardiac arrest associated with medical conditions that may have a better outcome despite prolonged resuscitation, including:

a. Hypothermia

b. Near-drowning

c. Lightning strike

d. Electrocution

e. Drug overdose

f. Cardiac arrest in infants and children

g. Cardiac arrest in a public place

h. Cardiac arrest in an environment where the bystanders do not accept the idea of ceasing efforts in the field. While most families understand the futility of the situation and are very accepting of field termination, some family members or bystanders can become hostile.

When termination of resuscitation has occurred, it is important to turn efforts towards the family.

- Inform any family at the scene of the patient's death and facilitate early grieving
- Clean up debris from the resuscitation
- Offer to call a friend, pastor, or funeral director
- Do not leave the scene until the family has adequate support

Bellevue Fire Department

VACCINATIONS

Revised: September 2013 Protocol: 1-10	Job Classes: Paramedic Category: GENOPS

The Bellevue Fire Department provides vaccinations to the active members in order to help prevent infection. The following Vaccinations have been approved by the Physician Medical Director to be regularly administered by BFD Paramedics:

- Influenza 0.5 cc IM
- TDaP (Tetanus, Diptheria, Acellular Pertussis) 0.5 cc IM

At times, it may be necessary to expand the list due to declared disasters or in anticipation of significant events.

After personnel receive the vaccination, the event will be recorded in their personal infection control medical file.

Bellevue Fire Department

AIRWAY AND OXYGEN

Revised: September 2013 Protocol: 2-01	Job Classes: EMT, AEMT, Paramedic Category: GENPRNCPL

An intact airway and adequate oxygenation and ventilation are essential for all patients with medical or traumatic conditions. Throughout this protocol it is assumed that EMS personnel will maintain a patent airway and provide appropriate supplemental oxygenation.

EMT

1. Open airway with head-tilt/chin-lift or jaw thrust maneuver and consider an oral adjunct.
2. Assess lung sounds
3. If ventilating adequately*, apply nasal cannula at 2-6 L/min or non-rebreather mask at 12-15 L/min
4. If NOT ventilating adequately*, assist ventilations with BVM and 100% oxygen
5. Consider assisting ventilations in those patients whose respiratory status does not improve after receiving oxygen by non-rebreather mask.
6. Assess pulse ox – goal is >94%. If pulse ox is below 94%, consider supplemental oxygen.
7. Insert and secure King Tube if indicated.
8. Capnography must be attached to all advanced airways – goal is 35-45 mmHg.
9. Suction oropharynx and nasopharynx as needed
10. If adequate ventilation is present and if indicated, apply CPAP to a max of 5 cmH2O.

*Adequate ventilation is defined as all of the following criteria present:

- Respiratory Rate between 12 and 20
- Enough tidal volume to cause chest rise and fall
- Alert and Oriented mental status with no signs of poor perfusion

AEMT

1. If adequate ventilation is present and if indicated, apply CPAP

Paramedic

1. Assess Capnography waveform
2. If airway is a failed airway, consider Quik-Trach
3. Perform tracheal suctioning as indicated

Confirm advanced airway placement by:

- Observing for chest rise and fall
- Verifying the presence of bilateral lung sounds and the absence of epigastric sounds by auscultation with a stethoscope
- Confirming improvement in saturations by pulse oximetry
- Attaching the $EtCO_2$ monitor and verify CO_2 production by digital display or waveform

Bellevue Fire Department

IV THERAPY

Revised: September 2013
Protocol: 2-02

Job Classes: EMT, AEMT, Paramedic
Category: GENPRNCPL

EMT

1. Assist with the preparation of IV supplies
    a. Assemble and spike bag or flush saline lock
    b. Open tegaderm (ops site) and alcohol wipe
    c. Assist AEMT/Medic with disposal of sharps

AEMT

1. All IV insertions refer to peripheral IVs (extremities only for AEMTs), including saline locks. If it is not anticipated that fluid resuscitation will be required, a saline lock should be established instead of hanging a liter of IV fluid.
2. For unstable trauma patients, IV's should be started enroute to the hospital, except when there is an unavoidable delay such as prolonged extrication time.
3. There should only be 2 IV attempts per patient.
4. A fluid bolus refers to 200 – 500 ml of fluid for the adult patient and 20 ml / kg of fluid for the pediatric patient

Paramedic

1. In addition to extremities, external jugular veins may be considered.
2. Use microdrip (minidrip) IV tubing for all IV infusions and with all premixed and diluted medications. Microdrip may also be considered for pediatric patients.
3. IO insertion is authorized for Code 99 and unstable pediatric and adult patients. If peripheral IV cannot be obtained and patient is unstable, consider IO. See EZ IO - Appendix F
4. The appropriate location for the IO is the proximal tibia only. The distal tibia and proximal humerus are not options at this time.

Bellevue Fire Department

PHYSICIAN ORDERS

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 2-03	Category: GENPRNCPL

This protocol, in its entirety, is considered a standing order. Radio communications are not required prior to performing any protocol action. However, EMS Personnel may call in for further direction or confirmation of orders whenever the patient's condition or the situation warrants.

If the paramedic is obtaining an online order from Medical Direction, the following information must be received:

- The name of the receiving physician
- The name of the medication
- The route of the medication
- The concentration of the medication
- The dose of the medication

The paramedic should repeat the order back to the physician over the radio in order to confirm the order.

Bellevue Fire Department

BODY SUBSTANCE ISOLATION

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 2-04	Category: GENPRNCPL

Standard practice in EMS is to use body substance isolation when caring for ALL patients. This means wearing gloves when administering patient care; handling blood and body fluids or surfaces or items soiled by blood and body fluids; masks and protective eyewear during procedures likely to generate droplets of potentially infectious materials; and aprons or gowns during procedures likely to generate splashes of blood or body fluids. This includes washing hands after each Patient care incident. Hands will be washed even if gloves were worn or waterless soap was used.

a. This policy also applies to immediate disposal of needles and sharps in disposable, impervious containers, as well as no recapping of needles.

b. All personnel should don surgical masks when in contact with patients in which an airborne communicable disease is suspected or confirmed by history (e.g., tuberculosis). Masks may also be placed on patients with active coughing.

Bellevue Fire Department

RESTRAINTS

Revised: September 2013
Protocol: 2-05

Job Classes: EMT, AEMT, Paramedic
Category: GENPRNCPL

Any attempt at restraint involves risk to the patient and to the out-of-hospital provider. The rescuer's safety must come before patient considerations. Do not attempt to restrain the patient without adequate assistance. Physical restraints are a last resort. All possible means of verbal persuasion should be attempted first.

EMT

a. A patient who is alert, oriented, aware of his condition, and capable of understanding the consequences of his refusal is entitled to refuse treatment. He may not be restrained and treated against his will. (Review consent guidelines and confer with physician if in doubt).

b. Any restrained patient may vomit - be prepared to suction and reposition as needed. Once restrained, the patient is never to be left alone. Aspiration can occur if patient is restrained on his back and cannot protect his own airway.

c. Check restraints and CSM as soon as applied and every 10 minutes thereafter to ensure no injury to extremities.

d. Remove restraints only with sufficient personnel available to control the patient - generally, only in the hospital setting.

e. Do not restrain a patient in the prone position. Do not restrain a patient sandwiched between backboards, scoop stretchers, or other immobilization devices. Do not "hog tie" patients (hands restrained behind back, feet restrained together, and the two restrained attached together).

f. Other than primary psychiatric disorders, medical causes of combativeness include hypoglycemia, hypoxia, head injury, and drug ingestion, which should all be assessed for

g. Written and verbal reports must completely document the necessity for the use of physical restraints. Record condition of limbs before applying restraints and recheck and record condition upon arrival at hospital.

h. If a patient is already handcuffed by law enforcement, an officer **must** ride with the patient to the hospital, or immediately follow the squad in his or her cruiser.

i. Once restraints are applied, they are not to be removed until they arrive at the hospital, or the patient enters an emergent condition where the restraint must be removed.

Paramedic

In addition to physical restraints, chemical restraints may also be considered utilizing Ativan 0.05 mg/kg to a max of 4 mg.

	Bellevue Fire Department **PAIN MANAGEMENT – NON-CARDIAC**	
	Revised: September 2013 Protocol: 2-06	Job Classes: EMT, AEMT, Paramedic Category: GENPRNCPL

PAIN MANAGEMENT – NON-CARDIAC

Adult Criteria (Severe Pain Ranked as 7+ on 0-10 scale)

EMT

1. Prepare IV Supplies
    a. Assemble and spike bag or flush saline lock
2. Obtain Vital Signs

AEMT

A. **Systolic BP > 90 mmHG**
    i. Consider Morphine Sulfate 2-4 mg IV/IO/IN
    ii. Reassess pain scale and vital signs
    iii. Repeat every 5 minutes as necessary if no response or pain remains severe

B. **Systolic BP < 90 mmHG**
    i. Consider fluid bolus to bring pressure to 90 Systolic
    ii. Consider Morphine Sulfate 1-2 mg IV/IO/IN
    iii. Reassess pain scale and vital signs
    iv. Repeat every 5 minutes as necessary if no response or pain remains severe

C. If respiratory depression occurs, begin BVM ventilations and administer Narcan 0.4-2.0 mg IV/IN in 0.4mg increments (max of 1cc per nostril)

D. If hypotension develops, administer Narcan 0.4-2.0 mg IV/IN in 0.4mg increments, followed by fluid bolus - titrate to vital signs (max of 1cc per nostril)

Paramedic

a. Consider premedicating patient with Zofran 4 mg IV, IO, PO to prevent nausea
b. Fentanyl Citrate 50-100 mcg IV/IO/IN push (max of 1cc per nostril)

Bellevue Fire Department

PAIN MANAGEMENT – NON-CARDIAC

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 2-06	Category: GENPRNCPL

Pediatric Criteria (Severe Pain Ranked as 6+ on 0-10 scale or Wong-Baker faces Scale)

A. Systolic BP appropriate for age

i. Premedicate patient with Zofran .15 mg/kg IV, IO
ii. Consider Morphine Sulfate 0.1 mg/kg to a maximum of 2mg increments IV/IN push or IM OR Fentanyl Citrate 1-2 mcg/kg IV/IN (max of 1cc per nostril).
iii. Reassess pain scale and vital signs
iv. Repeat every 5 minutes as necessary if no response or pain remains severe

B. If respiratory depression occurs, begin BVM ventilations and administer Narcan 0.01 mg/kg IV/IN (max of 1cc per nostril).

C. If hypotension develops, administer Narcan 0.01 mg/kg IV/IN, followed by fluid bolus - titrate to vital signs (max of 1cc per nostril).

Bellevue Fire Department

ANTIEMETIC-NAUSEA/VOMITING

Revised: September 2013 Protocol: 2-07	Job Classes: EMT, AEMT, Paramedic Category: GENPRNCPL

EMT

1. Assess and treat the cause of nausea where possible
    a. Nausea/Vomiting from Trauma/Pain
    b. Nausea/Vomiting due to Medication side effect
    c. Nausea/Vomiting from an Acute Cardiac or Medical event
    d. Nausea/Vomiting due to ambulance transport
2. Control and maintain patent airway
3. Follow appropriate protocol for patient's underlying condition
4. Prepare IV supplies

AEMT

1. Start IV of NS run TKO

Paramedic

Adult: Administer Odansetron (Zofran) 4-8 mg IV, IO, PO

Pediatric: Administer Odansetron (Zofran) .15mg/kg IV, IO

****NOTE: Zofran is not effective for nausea/vomiting due to chronic alcohol abuse**

Bellevue Fire Department

VITAL SIGNS

Revised: September 2013 Protocol: 2-08	Job Classes: EMT, AEMT, Paramedic Category: GENPRNCPL

This protocol serves as an outline for the basic assessment of each patient which involves a minimum of 2 full sets of vital signs. It is expected that each provider provide a full hands on assessment. While tools are available to aid in assessments, they can provide false positives which each provider should be aware of. The following parameters must be assessed on each patient and documented in your patient care reports:

- **Blood Pressure**: A systolic and diastolic blood pressure must be assessed. The first blood pressure must be auscultated by a crew member, palpation is not acceptable unless a pressure is very difficult to auscultate. Follow up blood pressures may be done by palpation or performed by the cardiac monitor if it has NIBP capabilities.

- **Pulse Rate**: A pulse rate must be assessed on each patient. The first pulse rate must be palpated by a crew member, a pulse ox reading is not acceptable. Follow up pulse readings can be assessed using palpation or the cardiac monitor waveforms.

- **Respiratory Rate:** Respiratory rates must be assessed on each patient. This can be observed through auscultation of lung sounds, observing chest rise and fall, or through capnography.

- **Pulse Oximetry**: Pulse oximetry should be assessed on each patient utilizing the portable pulse ox or the cardiac monitor.

Ideally there should be a minimum of 2 sets of vitals for every call, 1 while on scene and at least 1 during transport. During long transports, vitals should be reassessed every 5-10 minutes as long as the patient is stable.

All Code 3 patients should have a set of vitals performed about every 5 minutes.

Prior to Arrival or "PTA" should not be marked unless this is performed by another healthcare provider. PTA is designed to monitor healthcare activities prior to the arrival of any BFD unit. This should also serve as a guideline for all other interventions.

Bellevue Fire Department

GENERAL MANAGEMENT

Revised: September 2013 Protocol: 3-01	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Administer Aspirin 324 mg PO if indicated
5. Prepare IV Supplies
6. Assist patient with their Nitroglycerin 0.4 mg SL* if indicated
7. Start CPR if indicated

*NOTE: Nitroglycerin is contraindicated for patients who have used any erectile dysfunction (ED) medication (examples include Viagra, Levitra and Cialis) within the previous 48 hours.

AEMT

1. Initiate IV with NS TKO. On unstable chest pain patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock
2. Administer Nitroglycerin 0.4 mg SL once IV is established – if indicated
3. Consider Morphine Sulfate
    a. 2-4 mg slow IV (if systolic BP remains greater than 90 mmHg)
    b. 1-2 mg slow IV (if systolic BP remains less than 90 mmHg)

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present**
2. Consider Fentanyl 50-100 mcg IV for pain management

**Rhythms that can mimic or hide ST changes in 12 leads:

Bundle Branch Blocks
Ventricular or Paced Rhythms
Pericarditis
Benign Early Repolarization
Left Ventricular Hypertrophy
Medications

Bellevue Fire Department

CARDIAC EMERGENCIES

Revised: September 2013 Protocol: 3-02	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Administer Aspirin 324 mg PO if indicated
5. Prepare IV Supplies
6. Assist patient with their Nitroglycerin 0.4 mg SL* if indicated
7. Start CPR if indicated

*NOTE: Nitroglycerin is contraindicated for patients who have used any erectile dysfunction (ED) medication (examples include Viagra, Levitra and Cialis) within the previous 48 hours.

AEMT

1. Initiate IV with NS TKO. On unstable chest pain patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock
2. Administer Nitroglycerin 0.4 mg SL once IV is established – if indicated
3. Consider Morphine Sulfate
    a. 2-4 mg slow IV (if systolic BP remains greater than 90 mmHg)
    b. 1-2 mg slow IV (if systolic BP remains less than 90 mmHg)

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present**
2. Consider Fentanyl 50-100 mcg IV for pain management

**Rhythms that can mimic or hide ST changes in 12 leads:

Bundle Branch Blocks
Ventricular or Paced Rhythms
Pericarditis
Benign Early Repolarization
Left Ventricular Hypertrophy
Medications

Bellevue Fire Department

VENTRICULAR FIBRILLATION AND PULSELESS VENTRICULAR TACHYCARDIA

Revised: September 2013 Protocol: 3-03	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. Assess for Pulse and ABCs
2. Start Compressions at 100/min, 2" deep
3. Apply AED and analyze rhythm (continue compressions while charging)
4. Make sure everyone is clear and deliver shock
5. Apply AutoPulse unless contraindicated
6. Bag patient via BVM with OPA and 15 lpm Oxygen
7. Establish King Tube with Capnography – ETCO2 should be at least 10 mmHg
8. Prepare IV Supplies

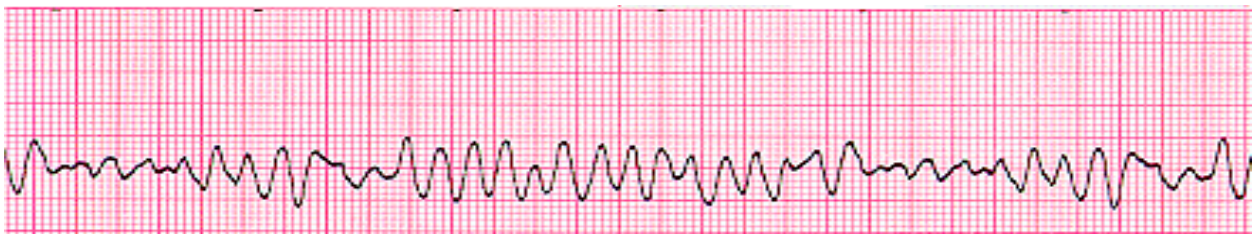
AEMT

1. Initiate IV and give fluid bolus

Paramedic

1. Attach monitor and interpret rhythm, defibrillate every 2 minutes as indicated
2. If IV cannot be established, establish an IO
3. Administer 40 Units of Vasopressin (may replace 1st or second dose of Epinephrine)
4. Administer 1 mg of Epinephrine 1:10,000 IV every 3-5 minutes
5. Administer Amiodarone:
    a. 1st dose – 300 mg
    b. 2nd dose – 150 mg
6. Consider Magnesium Sulfate 1-2 g for Torsades de Pointes
7. Consider Sodium Bicarb 1 mEq/kg for acidosis
8. Consider Calcium Gluconate 1000 mg for suspected hyperkalemia
9. Consider Narcan 2 mg for suspected overdose
10. Consider Dextrose 50% 25g for hypoglycemia

If Return of Spontaneous Circulation is witnessed (ROSC), follow protocol 3.4.



Bellevue Fire Department

RETURN OF SPONTANEOUS CIRCULATION

Revised: September 2013 Protocol: 3-04	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. Obtain baseline vitals
2. Reassess interventions already performed
3. Obtain 12 Lead
4. Monitor ETCO2 – aim for 35-45 mmHg
5. Titrate SpO2 to 94%

Paramedic

1. Interpret cardiac waveform and treat accordingly
2. Interpret 12 Lead ECG, activate cath lab as necessary
3. Interpret Capnography waveform
4. If Amiodarone was given already, start infusion of 150 mg over 10 minutes.
5. Aggressive support for blood pressure (Appendix B) –
    a. Epinephrine Drip: 0.1-0.5 mcg/kg/min
    b. Dopamine Drip: 5-20 mcg/kg/min
6. If criteria met, begin therapeutic hypothermia – Appendix N
7. Administer Ativan 2-4mg for post intubation sedation as blood pressure allows

Bellevue Fire Department

ASYSTOLE

Revised: September 2013 Protocol: 3-05	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. Assess for Pulse and ABCs
2. Start Compressions at 100/min, 2" deep
3. Apply AED and analyze rhythm (continue compressions while charging)
4. Make sure everyone is clear and deliver shock
5. Apply AutoPulse unless contraindicated
6. Bag patient via BVM with OPA and 15 lpm Oxygen
7. Establish King Tube with Capnography – ETCO2 should be at least 10 mmHg
8. Prepare IV Supplies

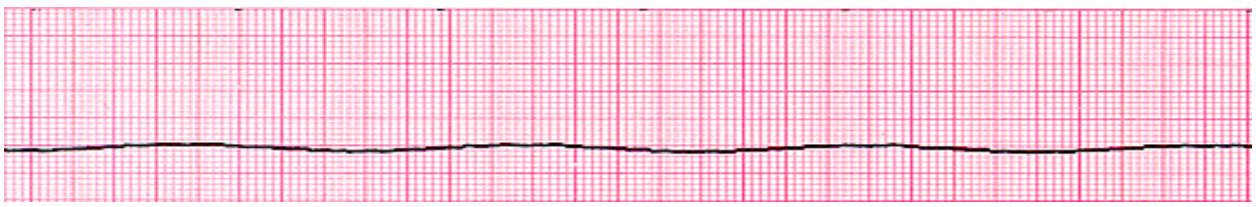
AEMT

1. Initiate IV and give fluid bolus

Paramedic

1. Determine if resuscitation should be attempted, rule out code 4 criteria
2. Attach monitor and interpret rhythm and capnography
3. If IV cannot be established, establish an IO
4. Administer 40 Units of Vasopressin (may replace 1st or second dose of Epinephrine)
5. Administer 1 mg of Epinephrine 1:10,000 IV/IO every 3-5 minutes
6. Rule out H's and T's
    a. Consider Magnesium Sulfate 1-2 g for Torsades de Pointes
    b. Consider Sodium Bicarb 1 mEq/kg for acidosis
    c. Consider Calcium Gluconate 1000 mg for suspected hyperkalemia
    d. Consider Narcan 2 mg for suspected overdose
    e. Consider Dextrose 50% 25g for hypoglycemia

If Return of Spontaneous Circulation is witnessed (ROSC), follow protocol 3.4.



Bellevue Fire Department

PULSELESS ELECTRICAL ACTIVITY

Revised:	September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol:	3-06	Category: CARDIO

EMT

1. Assess for Pulse and ABCs
2. Start Compressions at 100/min, 2" deep
3. Apply AED and analyze rhythm (continue compressions while charging)
4. Make sure everyone is clear and deliver shock
5. Apply AutoPulse unless contraindicated
6. Bag patient via BVM with OPA and 15 lpm Oxygen
7. Establish King Tube with Capnography – ETCO2 should be at least 10 mmHg
8. Prepare IV Supplies

AEMT

1. Initiate IV and give fluid bolus

Paramedic

1. Determine if resuscitation should be attempted, rule out code 4 criteria
2. Attach monitor and interpret rhythm and capnography
3. If IV cannot be established, establish an IO
4. Administer 40 Units of Vasopressin (may replace 1st or second dose of Epinephrine)
5. Administer 1 mg of Epinephrine 1:10,000 IV every 3-5 minutes
6. Rule out H's and T's
    a. Consider Magnesium Sulfate 1-2 g for Torsades de Pointes
    b. Consider Sodium Bicarb 1 mEq/kg for acidosis
    c. Consider Calcium Gluconate 1000 mg for suspected hyperkalemia
    d. Consider Narcan 2 mg for suspected overdose
    e. Consider Dextrose 50% 25 g for hypoglycemia

If Return of Spontaneous Circulation is witnessed (ROSC), follow protocol 3.4.

Bellevue Fire Department

BRADYCARDIAS

Revised: January 2013 Protocol: 3-07	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies

AEMT

1. Initiate IV with NS TKO. On unstable bradycardia patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
2. For Stable Bradycardias, Atropine 0.5 – 1.0 mg may be considered
3. For Unstable Bradycardias, start Transcutaneous Pacing Immediately (Anterior – Posterior pad placement)
    a. Consider Ativan 2-4mg for sedation, do not delay pacing
    b. Verify electrical and mechanical capture through palpation of pulse that matches monitor
4. Consider additional blood pressure support (Appendix B):
    a. Dopamine Drip 5-20 mcg/kg/min
    b. Epinephrine Drip 2-10 mcg/min

NOTES:

Do not delay TCP while waiting for IV access or for atropine to take effect if patient is unstable

Never treat the combination of 3º heart block and ventricular escape beats with Amiodarone or any agent that suppresses ventricular escape rhythms

Atropine is not effective for denervated transplanted hearts

Bellevue Fire Department

VENTRICULAR TACHYCARDIA WITH A PULSE

Revised: September 2013
Protocol: 3-08

Job Classes: EMT, AEMT, Paramedic
Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies

AEMT

1. Initiate IV with NS TKO. On unstable cardiac patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
2. If Stable, consider Amiodarone infusion 150 mg over 10 minutes
3. If Stable, consider Adenosine 6 mg rapid bolus, may be repeated once with 12 mg.
    a. Adenosine may ONLY be used for MONOMORPHIC V-tach
4. If Unstable, immediately prepare for synchronized cardioversion at 100J
    a. Consider Ativan 2-4 mg for sedation if time allows
    b. May be repeated with increasing Joules if no response (150J, 200J, etc.)

Bellevue Fire Department

PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA

Revised September 2013 Protocol: 3-09	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies

AEMT

1. Initiate IV with NS TKO. On unstable cardiac patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock
    a. IV should be as close to the heart as possible, large bore is preferred.

Paramedic

1. Consider vagal maneuvers
2. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
3. If Stable, consider Adenosine 6 mg rapid bolus, may be repeated once with 12 mg.
    a. Adenosine may ONLY be used for SVT, rule out A-Fib with RVR and A-Flutter with RVR with a 12 Lead
4. If Unstable, immediately prepare for synchronized cardioversion at 50J
    a. Consider Ativan 2-4 mg for sedation if time allows
    b. May be repeated with increasing Joules if no response (100J, 150J, etc.)
5. If polymorphic or torsades de pointes, consider magnesium sulfate 1 – 2 gms slow IV push

NOTES:

- If patient has taken a stimulant (bath salts), Adenosine should be avoided and synchronized cardioversion should be considered.

Bellevue Fire Department

ATRIAL FIBRILLATION

Revised: September 2013 Protocol: 3-10	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies

AEMT

1. Initiate IV with NS TKO. On unstable cardiac patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
2. If Stable, consider Amiodarone infusion 150 mg over 10 minutes.
3. If Unstable, immediately prepare for synchronized cardioversion at 70J
    a. Consider Ativan 2-4 mg for sedation if time allows
    b. May be repeated with increasing Joules if no response (100J, 150J, etc.)

Bellevue Fire Department

VENTRICULAR ECTOPY / RUNS OF V-TACH

Revised: September 2013
Protocol: 3-11

Job Classes: EMT, AEMT, Paramedic
Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies
5. Oxygenate with high flow oxygen

AEMT

1. Initiate IV with NS TKO. On unstable cardiac patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
2. Consider Amiodarone infusion 150 mg over 10 minutes.
3. Follow most appropriate protocol based upon underlying rhythm.

Bellevue Fire Department

CHEST PAIN

Revised: September 2013 Protocol: 3-12	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Administer Aspirin 324 mg PO if indicated
5. Prepare IV Supplies
6. Assist patient with their Nitroglycerin 0.4 mg SL* if indicated

*NOTE: Nitroglycerin is contraindicated for patients who have used any erectile dysfunction (ED) medication (examples include Viagra, Levitra and Cialis) within the previous 48 hours.

AEMT

1. Initiate IV with NS TKO. On unstable chest pain patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock
2. Administer Nitroglycerin 0.4 mg SL once IV is established – if indicated
3. Consider Morphine Sulfate
    a. 2-4 mg slow IV (if systolic BP remains greater than 90 mmHg)
    b. 1-2 mg slow IV (if systolic BP remains less than 90 mmHg)

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present**
    a. If Inferior Wall MI is present – Perform right sided 12 lead (Protocol 3.17)
2. Consider Fentanyl 50-100 mcg IV for pain management

**Rhythms that can mimic or hide ST changes in 12 leads:

- Bundle Branch Blocks
- Ventricular or Paced Rhythms
- Pericarditis
- Benign Early Repolarization
- Left Ventricular Hypertrophy
- Medications

Dcoumentation:

If Aspirin is given "Prior to Arrival" or PTA by either the patient or another healthcare provider, this shall be documented as such (PTA) on your ePCR.

Bellevue Fire Department

PULMONARY EDEMA

Revised: September 2013 Protocol: 3-13	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

Dyspnea in the presence of diminished lung sounds, wheezes, rales, or frothy sputum with blood pressure that is hypertensive or within normal limits

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Position patient upright
4. Obtain 12 Lead ECG (see CARDIO 3.16)
5. Assess Lung Sounds
6. Prepare IV Supplies
7. If adequate ventilation, consider CPAP to a maximum of 5 cm H2O (Appendix E)
8. If inadequate breathing, utilize BVM to assist ventilations

AEMT

1. Initiate IV with NS TKO. On unstable cardiac patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock
    a. VERY cautious fluid administration based upon lung sounds
2. Administer Nitroglycerin 0.4 mg SL once IV is established – if indicated
3. Consider Morphine Sulfate
    a. 2-4 mg slow IV (if systolic BP remains greater than 90 mmHg)
    b. 1-2 mg slow IV (if systolic BP remains less than 90 mmHg)
4. Consider CPAP (Appendix E)

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
2. If blood pressure support is needed, consider Dopamine Drip 5-20 mcg/kg/min

Bellevue Fire Department

CARDIOGENIC SHOCK

Revised: September 2013
Protocol: 3-14

Job Classes: EMT, AEMT, Paramedic
Category: CARDIO

Dyspnea in the presence of diminished lung sounds, wheezes, rales, or frothy sputum with blood pressure that is hypotensive. Cardiogenic shock is defined as inadequate cardiac output, as manifested by hypotension and poor peripheral perfusion

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Position patient upright
4. Obtain 12 Lead ECG (see CARDIO 3.16)
5. Assess Lung Sounds
6. Prepare IV Supplies
7. If adequate ventilation, consider CPAP to a maximum of 5 cm H2O (Appendix E)
8. If inadequate breathing, utilize BVM to assist ventilations

AEMT

1. Initiate IV with NS TKO. On unstable cardiac patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock
    a. VERY cautious fluid administration based upon lung sounds
2. Consider CPAP (Appendix E)

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
2. If blood pressure support is needed, consider Dopamine Drip 5-20 mcg/kg/min

Bellevue Fire Department

ATRIAL FLUTTER

Revised: September 2013 Protocol: 3-15	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies

AEMT

1. Initiate IV with NS TKO. On unstable cardiac patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present
2. If Stable, consider Amiodarone infusion 150 mg over 10 minutes.
3. If Unstable, immediately prepare for synchronized cardioversion at 70J
    a. Consider Ativan 2-4 mg for sedation if time allows
    b. May be repeated with increasing Joules if no response (100J, 150J, etc.)

Bellevue Fire Department

12 LEAD ECG

Revised: September 2013
Protocol: 3-16

Job Classes: EMT, AEMT, Paramedic
Category: CARDIO

Rapid diagnosis of acute myocardial infarction is essential to initiating appropriate treatment and improving outcomes. In selected practice environments prehospital ECG's may facilitate emergency department treatment or may facilitate primary triage to appropriate cardiac care centers.

Indications

Chest pain suggestive of cardiac ischemia or signs and symptoms that warrant a 12 lead such as, but not limited to the following:

- Unexplained diaphoresis
- Dizziness, Faint, Weakness
- Shortness of Breath
- Significant Bradycardias (<50)
- Significant Tachycardias (>150)
- Post Code-99
- Syncopal Episode(s)
- Unconscious patients
- Atypical presentations (diabetic females)
- Upper Epigastric Pain
- Electric Injuries

Contraindications

- A patient for whom the acquisition of a prehospital 12-lead ECG will cause a significant time delay or other circumstance that is not in the best interest of patient care at that time.
- A patient who refuses to allow a 12-lead ECG to be performed.

Acquisition

Lead Placement - Limb leads (augmented leads). The limb leads are the paramedic's first response to acquire rate and rhythm. Four electrodes are required for this procedure.

a. Left anterior axillary line - Left anterior shoulder
b. Right anterior axillary line - Right anterior shoulder
c. Left anterior superior iliac crest - left hip
d. Right anterior superior iliac crest - right hip

Lead Placement, Precordial leads:

a. V-1, fourth intercostal space just to the right of the sternum.
b. V-2, fourth intercostal space just to the left of the sternum.
c. V-3, in between V2 and V4
d. V-4, right fifth intercostal space mid clavicular line.
e. V-5, right anterior axillary line level with V4
f. V-6, right mid axillary line level with V4 and V5.

What each lead sees:

a. Leads I, AVL, V5, V6: lateral wall
b. Leads II, III, AVF: inferior wall
c. Leads V1, V2: septal wall
d. Leads V3, V4: anterior wall
e. Lead V4R, V5R, V6R: right ventricle

Bellevue Fire Department

12 LEAD ECG

Revised: September 2013
Protocol: 3-16

Job Classes: EMT, AEMT, Paramedic
Category: CARDIO

Right Sided Lead Placement (***Mandatory in all Inferior wall MI's***):

a. V-1R, fourth intercostal space just to the left of the sternum
b. V-2R, fourth intercostal space just to the right of the sternum
c. V3R, in between V-2R and V-4R
d. V-4R, right fifth intercostal space mid clavicular line
e. V-5R, right anterior axillary line level with V4R
f. V-6R, right mid axillary line level with V4R and V5R

General Description of 12 Lead Procedures

1. A 12-lead ECG with standard limb lead electrode placement will be performed on all eligible patients.

2. Explain procedure to patient. Expose the chest and limb areas where the electrodes will be placed.

3. Attach precordial electrodes and acquire 12-lead ECG while patient assessment and or treatment is taking place, to keep scene time from being adversely affected.

4. Acquisition of early and 12-lead ECGs should be performed when possible.

5. Utilize towels and blankets in the rescue squad for the modesty benefit of female patients on whom 12-lead ECG's are acquired. Note: In the female patient, chest leads must be positioned under the breast. This may be accomplished by lifting the breast with the back of a gloved hand.

6. Press the "12 lead" button on the front panel. The screen may display "enter patient age" at which point the EMS personnel enters the patient's age using the selector buttons on the top of the monitor. The monitor requires the patient's age because the criterion for ECG interpretation is different for patients less than 17 years than adult patients. Enter patient last name in the monitor system.

7. If defibrillation, synchronized cardioversion or pacing is necessary, quickly remove the necessary precordial leads to allow for quick-combo patch placement and proceed with appropriate protocol.

8. If feasible, the 12-lead ECG should be acquired with the patient in the supine position. Do not, however, compromise your patient to acquire it. Many of your cardiac patients may be orthopneic and unable to tolerate the supine position.

9. The EMS personnel asks the patient to keep still with their muscles as relaxed as possible and to breathe normally during the 12 lead ECG recording which takes approximately 10 seconds.

10. Press “Acquire”. “Acquiring ECG” displays on the monitor during recording.

11. Review the ECG for evidence of an acute MI. Treat according to protocol.

12. 12-lead EKG interpretive findings should be reported to receiving hospital during radio transmission of patient assessment.

13. If a true STEMI is assessed in the field, the transporting Paramedic or his designee is to call the receiving facility and notify them of a STEMI. They will also advise that they will encode with an update while the patient is being transported.

Bellevue Fire Department

RIGHT VENTRICULAR INVOLVEMENT

Revised: September 2013 Protocol: 3-17	Job Classes: EMT, AEMT, Paramedic Category: CARDIO

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
    a. Right sided 12 Lead placement is the same as left landmarks.
4. Administer Aspirin 324 mg PO if indicated
5. Prepare IV Supplies
6. Assist patient with their Nitroglycerin 0.4 mg SL* if indicated

*NOTE: Nitroglycerin is contraindicated for patients who have used any erectile dysfunction (ED) medication (examples include Viagra, Levitra and Cialis) within the previous 48 hours.

AEMT

1. Initiate IV with NS TKO. On unstable chest pain patients that are highly suspected or confirmed to having a STEMI, 2 IV's should be started. One should contain a liter of saline with a 10 gtts set and a saline lock, the other should only contain a saline lock
2. CAUTIOUS Administration of Nitroglycerin 0.4 mg SL once IV is established – if indicated
3. CAUTIOUS administration of Morphine Sulfate
    a. 2-4 mg slow IV (if systolic BP remains greater than 90 mmHg)
    b. 1-2 mg slow IV (if systolic BP remains less than 90 mmHg)

Paramedic

1. Interpret 12 Lead ECG – Immediate Cath Lab Activation in field if STEMI is present**
    a. If Inferior Wall MI is present – Perform right sided 12 lead (Protocol 3.17)
2. Consider Fentanyl 50-100 mcg IV for pain management

**Rhythms that can mimic or hide ST changes in 12 leads:

- Bundle Branch Blocks
- Ventricular or Paced Rhythms
- Pericarditis
- Benign Early Repolarization
- Left Ventricular Hypertrophy
- Medications

NOTE:

Right Sided MIs typically present with the following:

Shortness of Breath with clear lung sounds
Hypotension
Bradycardia
Nausea/Vomiting
ST Elevation in II, III, aVF, and V1R – V6R

Bellevue Fire Department

GENERAL TRAUMA MANAGEMENT

Revised:	September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol:	4-01	Category: TRAUMA

EMT

1. ABC, SAMPLE, OPRST Assessment
2. Maintain and protect airway, assess lung sounds
3. Control the cervical spine. Assume cervical spine injury is present in any patient with:
    a. Evidence of high impact with a distracting injury (TCC criteria)
    b. Any head or neck injury
    c. Neck pain following trauma
    d. Altered mental status
    e. Presence of any neurological deficit
4. Consider helicopter transport of Trauma Center Candidates who would benefit being transport by air, rather than by ground:
    a. Extended extrication time (>20 minutes)
    b. Consider requesting standby status while en route to the scene, the helicopter may be cancelled at any time
    c. Never delay transport to wait for the helicopter
5. Control hemorrhage with direct pressure. If bleeding is still not controlled, utilize a tourniquet. Ensure you record what time the tourniquet was placed.
6. Helmets should only be removed if they interfere with airway management. Faskmasks may be removed while still leaving the helmet in place, secure the helmet to the long spine board and pad in place. Ensure an open and patent airway with positioning.
7. Any impaled objects should be stabilized in place. Objects may be removed only if they interfere with airway management and/or CPR. If the object is too large to transport, it may be cut down in size without being removed.
8. Treat for shock (hypoperfusion):
    a. Apply oxygen and assist ventilations if necessary
    b. Prepare IV Supplies
    c. Keep patient warm – blankets, warm IV fluid preparation, turn on heat
9. Transport patient to the Trauma Center of the day if specific criteria is met
10. The AutoPulse is contraindicated in patients who are in cardiac arrest as a result of a traumatic injury

AEMT

1. Establish 2 large bore IVs.
2. Only infuse fluids as needed to maintain permissive hypotension (SBP 80-90 mmHg)
    a. Warm fluids should be used if available
3. Consider pain management – see GENPRNCPL 2.6

Paramedic

1. Consider pain management – see GENPRNCPL 2.6

Bellevue Fire Department

HEAD INJURIES

Revised: September 2013
Protocol: 4-02

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Maintain / manage airway and apply oxygen if indicated (Goal is to maintain oxygen saturation > 94%). Prepare suction supplies.
3. Take C-Spine precautions if indicated
4. If inadequate breathing or irregular respirations, assist ventilations with a BVM and supplemental oxygen.
5. Ventilate with adequate tidal volume at normal respiratory rate for patient age. Using capnography inline with BVM or King Airway, maintain end-tidal CO_2 at 30 – 35.
6. Prepare IV Supplies
7. Position patient to assist with increased ICP – raise head of cot 35° for patients with hypertension >140 mmHg SBP
8. Control bleeding with direct pressure – if open skull fracture or depressed skull fracture, do not put pressure into the brain cavity. Apply pressure around the injury.
9. Assess pupils and CSM/neurological status

AEMT

1. Establish 2 large bore IVs.
    a. Warm fluids should be used if available
2. Limit fluid infusions to maintain SBP 80-90 mmHg
3. Consider pain management – see GENPRNCPL 2.6

Paramedic

1. Interpret Capnography waveform
2. Consider Zofran 4-8 mg IV/IO/PO for nausea/vomiting
3. Consider RSA for patients with a compromised airway, or those who are combative and cannot protect their own airway – Appendix L.
4. If seizures occur, administer Ativan 0.05 mg/kg IV/IO/IN to a max of 4 mg

Bellevue Fire Department

CHEST INJURIES

Revised: September 2013
Protocol: 4-03

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Maintain airway, apply oxygen if indicated (goal is to maintain SpO2 >94%)
4. Consider C-Spine precautions if indicated
5. If inadequate ventilation, assist with BVM and supplemental oxygen, continuously reassess lung sounds
6. Cover any sucking chest wounds with an occlusive dressing, assess for entry and exit wounds
7. Do not remove any impaled objects unless it interferes with airway or CPR. If the object is large in size, it may be cut down to allow for transport.

AEMT

1. Start 2 large bore IVs. Limit fluid infusion to support SBP 80-90 mmHg
    a. Warm fluids should be used if available
2. Consider pain management – see GENPRNCPL 2.6

Paramedic

1. Consider needle decompression for the following conditions:
    a. Code 99 patients with blunt trauma
    b. Blunt trauma with at least 3 of the following:
        i. Absent/diminished lung sounds on the affected side
        ii. Increased work of breathing
        iii. Hypotension
        iv. Inability to maintain SpO2 above 90%
        v. Jugular Vein Distention
        vi. Tracheal Deviation
2. Perform bilateral needle decompression in all Code 99 patients with penetrating trauma
3. Perform needle decompression for any patient with penetrating chest trauma AND absent/diminished lung sounds.

Bellevue Fire Department

ABDOMINAL TRAUMA

Revised: September 2013
Protocol: 4-04

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Maintain airway, apply oxygen if indicated (goal is to maintain SpO2 >94%)
4. Consider C-Spine precautions if indicated
5. If inadequate ventilation, assist with BVM and supplemental oxygen
6. If an evisceration is present, cover exposed organs with warm moist dressing. Do not attempt to replace organs back into abdominal cavity.
7. Do not remove any impaled objects unless it interferes with airway or CPR. If the object is large in size, it may be cut down to allow for transport.

AEMT

1. Start 2 large bore IVs. Limit fluid infusion to support SBP 80-90 mmHg
    a. Warm fluids should be used if available
2. Consider pain management – see GENPRNCPL 2.6
    a. Do not withhold pain management because of abdominal pain

Paramedic

1. Consider Zofran 4-8 mg IV/IO for nausea

Bellevue Fire Department

EXTREMITY INJURIES

Revised: September 2013
Protocol: 4-05

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Maintain airway, apply oxygen if indicated (goal is to maintain SpO2 >94%)
3. Consider C-Spine precautions if indicated
4. Do not remove any impaled objects unless it interferes with airway or CPR. If the object is large in size, it may be cut down to allow for transport.
5. Assess CSM of all extremities before and after manipulating or splinting.
    a. If CSM is absent, you have one attempt manipulate the injury to restore function
6. Choose the most appropriate splint based upon patient condition and injury sustained
    a. If the patient is critical, the long spine board will serve as the most appropriate splint, do not delay scene time to apply multiple splints.
7. For injuries involving joints with good CSM, it is best to splint in place
8. Prepare IV supplies

AEMT

1. Start 2 large bore IVs. Limit fluid infusion to support SBP 80-90 mmHg
    a. Warm fluids should be used if available
2. Consider pain management – see GENPRNCPL 2.6

Paramedic

1. Consider Zofran 4-8 mg IV/IO for nausea

Bellevue Fire Department

EYE TRAUMA

Revised: September 2013
Protocol: 4-06

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Maintain / manage airway and apply oxygen if indicated (Goal is to maintain oxygen saturation > 94%). Prepare suction supplies.
3. Take C-Spine precautions if indicated
4. If inadequate breathing or irregular respirations, assist ventilations with a BVM and supplemental oxygen.
5. Prepare IV Supplies
6. Control bleeding with direct pressure – if there is an injury to the globe of the eyeball, do not apply pressure to the globe.
7. Assess pupils
8. Perform decontamination as needed
    a. Notify hospital of decontamination ASAP
9. If the globe is dislodged, do not attempt to replace globe
10. If an object is impaled, do not remove
11. Cover both eyes to avoid movement and possible aggravation of injury.
12. Do not allow patient to rub eyes

AEMT

1. Establish IV.
2. Consider pain management – see GENPRNCPL 2.6

Paramedic

1. Consider Zofran 4-8 mg IV/IO/PO for vertigo/nausea
2. Administer Proparacaine 1-2 drops in the affected eye. Additional drops may be considered in 5 minute intervals.

Bellevue Fire Department

BURNS

Revised: September 2013
Protocol: 4-07

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Stop the burning process
3. Assess for inhalation burns:
    a. Hoarse voice
    b. Cough
    c. Stridor
    d. Singed nasal or facial hair
    e. Burns to the face and/or neck
    f. Carbon in the sputum
    g. Known environment where airway burn is likely – structure fire
4. Consider Albuterol 2.5 mg NEB for wheezing
5. Protect from hypothermia and treat for shock/hypoperfusion
    a. Clean dry dressings should be placed over burns
6. Remove rings, bracelets and other constricting items in burned areas, if clothing is burned into the skin, cut around the clothing, do not remove it from the skin.
7. Decontaminate if exposure to chemicals occurred
    a. Notify hospital of decontamination ASAP
8. If electrical burns present, beware of live wires
9. Apply cardiac monitor and obtain 12 Lead
10. Prepare IV supplies

AEMT

1. Establish 2 large bore IVs
    a. Avoid IV placement in areas that could swell from burns or in eschar tissue itself
2. Aggressive pain management – GENPRNCPL 2.6

Paramedic

1. Interpret ECG and 12 Lead
2. Consider advanced airway and RSA – Appendix L
3. Have back-up airway device readily available – Quik Trach
4. Consider CYANOKIT- Appendix M
5. Consider Zofran 4-8 mg IV/IO/PO

Bellevue Fire Department

ANIMAL BITE

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 4-08	Category: TRAUMA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Control and maintain airway
3. Control bleeding with direct pressure
4. If venomous bite occurred:
    a. Ensure animal is not nearby
    b. Apply a constricting band (venous tourniquet) proximal to the bite site
    c. Do not rinse, cut open, or apply cold packs
5. Prepare IV supplies
6. Apply cardiac monitor

AEMT

1. Establish IV in unaffected extremity
2. Consider pain management – GENPRNCPL 2.6

Bellevue Fire Department

COMPRESSION SYNDROME

Revised: September 2013 Protocol: 4-09	Job Classes: EMT, AEMT, Paramedic Category: TRAUMA

This protocol is to be used for adult patients who are being rescued from being trapped by having an extremity muscle mass compressed for more than four hours or more than two hours in a cold climate, but also who have pulses distal to the compression. This would also apply to those patients hanging in a harness for an extended period of time. Preventive treatment for Compression Syndrome is secondary to primary interventions for acute traumatic injuries. The risks of Compression Syndrome are greater if the patient's extremity is hard, swollen, cold and insensitive.

EMT

1. Do not remove the object until ALS advises to do so
2. ABC, SAMPLE, OPQRST Assessment
3. Prepare IV supplies
4. Apply cardiac monitor
5. Attempt to keep affected part of the body below the heart
6. Control hemorrhage

AEMT

1. Establish 2 large bore IVs
2. Consider pain management – GENPRNCPL 2.6

Paramedic

1. Interpret cardiac monitor
2. Administer Albuterol 2.5 mg via NEB, may repeat as needed
3. Inject 100 mEq of Sodium Bicarb into 1 L of 0.9% Saline and rapidly infuse into the patient
4. Direct the removal of the compressing object
5. If signs of hyperkalemia show, administer 1000 mg of Calcium Gluconate IV/IO
    a. Do NOT administer Calcium in the same IV line as Sodium Bicarb

Bellevue Fire Department

TASER PROBE REMOVAL

Revised: September 2013 Protocol: 4-10	Job Classes: EMT, AEMT, Paramedic Category: TRAUMA

EMS personnel may be requested to assess patients after TASER deployment, and/or to remove TASER barbs lodged in someone's skin. Be aware that secondary injuries may result from falls sustained after the device has been deployed. Subjects should not be dazed or confused following device deployment.

Assessing patients following TASER deployment:

- Confirm that the TASER has been shut off and the wires connecting the barbs to the device have been cut by law enforcement.
- Obtain vital signs at the earliest opportunity.
- Evaluate the anatomical location of the barb's puncture zone(s). High-risk/sensitive zones will require transport to a medical facility for removal. Do not attempt to remove the barb(s) if they are lodged in the:

    - Eyes, ears, nose, mouth, face, or neck
    - Genitals
    - Spine

Barb Removal

- Utilize appropriate PPE
- Remove one barb at a time. Stabilize the skin surrounding the TASER barb. Firmly grasp the barb and with one smooth hard jerk, remove barb from patient's skin.
- Visually examine the barb tip to ensure it is fully intact. If any part of the barb remains in the subject, transport the patient to a medical facility for removal.
- The TASER barb is considered a sharp and EMS personnel should take all precautions to avoid accidental needle sticks when removing barbs.
- Ensure the barb is returned to the law enforcement officer.
- Provide wound care by covering the affected area with an adhesive bandage or gauze.
- Inform subject of basic wound care and the need to seek additional care in the event that signs of infection occur (redness-pain-drainage-swelling-fever.)

If emergency department evaluation is necessary, transport to the closest appropriate hospital.

Bellevue Fire Department

TRAUMA CENTER CANDIDATE CRITERIA

Revised: September 2013
Protocol: 4-11

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

If any of the following are met, transport to the Trauma Center.

Vital Signs and Level of Consciousness:

- Glasgow Coma Scale - 13 or less
- Systolic BP -<90 mmHg or less
- Respiratory Rate - <10 or >29 in adult patients, or need for ventilations. <20 in infants
- Positive Loss of Consciousness

Injuries:

- All penetrating injuries to head, neck, torso and extremities proximal to elbow and knee
- Chest wall instability or deformity
- Combination trauma and burns
- Suspected airway involvement and/or burns greater than 10 % of total body surface
- Two or more proximal long bone fractures
- Suspected pelvic fracture
- Significant neurological or vascular deficit
- Amputation proximal to wrist or ankle
- Open or depressed skull fracture
- Paralysis

If any of the following are met, transport to the Trauma Center should strongly be considered.

Mechanism of Injury:

- Falls
  - Adults: >20 feet
  - Children: > 10 feet or 2-3 times the height of the child
- High Risk Auto Crash
  - Intrusion to patient compartment >12 inches occupant site, or >18 inches intrusion anywhere
  - Partial or complete ejection
  - Death in same passenger compartment
  - Vehicle telemetry data consistent with high risk of injury
  - Auto vs. Pedestrian/bike thrown, run over, or with significant impact >20 mph
  - Motorcycle crash >20 mph

Special Considerations:

- Older Adults
  - Risk of injury/death increases after age 55
  - SBP <110 may represent shock after age 65
  - Low impact mechanisms (ground level falls) may result in severe injury
- Children
  - Should be triaged preferably to pediatric capable trauma centers
- Anticoagulants and bleeding disorders
  - Patients with a head injury may deteriorate quickly
- Pregnancy >20 weeks
- EMS may transport to Trauma Center any time it is felt that it is in the best interest of the patient.

Trauma Center of the Day Designation (Omaha area - Trauma Center days rotate at 0700 every day):

UNMC - Tuesday, Friday and Sunday **Alegent Creighton** - Monday, Wednesday, Thursday and Saturday

Bellevue Fire Department

REVISED TRAUMA AND GLASGOW TRAUMA SCORES FOR ADULTS

Revised: September 2013
Protocol: 4-12

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

REVISED TRAUMA SCORE (ADULT)

Glasgow Coma Scale	Value
13 - 15	4
9 – 12	3
6 – 8	2
4 – 5	1
3	0

Respiratory Rate	Value
10 – 29	4
>29	3
6 – 9	2
1 – 5	1
None	0

Systolic Blood Pressure	Value
>89	4
76 - 89	3
50 - 75	2
1 – 49	1
None	0

Score **0 – 12**

Score ≤ 11, transport to the Trauma Center

GLASGOW COMA SCALE

Eye Opening	Value
Spontaneous	4
To Voice	3
To Pain	2
None	1

Verbal Response	Value
Oriented	5
Words or Phrases	4
Incomprehensible	3
Grunts or Moans	2
None	1

Motor Response	Value
Obeys Commands	6
Localizes Pain	5
Withdraws (Pain)	4
Flexion (Pain)	3
Extension (Pain)	2
None	1

Score **3 – 15**

Score ≤ 13, transport to the Trauma Center

Bellevue Fire Department

PEDIATRIC TRAUMA SCORE

Revised: September 2013
Protocol: 4-13

Job Classes: EMT, AEMT, Paramedic
Category: TRAUMA

Component		Score
Weight	> 20 kg (44 pounds)	+2
	10 – 20 kg (22 – 44 pounds)	+1
	< 10 kg (22 pounds)	-1
Airway	Patent[1]	+2
	Maintainable[2]	+1
	Unmaintainable[3]	-1
Systolic BP	> 90 mmHg	+2
	50 – 90 mmHg	+1
	< 50 mmHg	-1
Pulses	Radial	+2
	Carotid	+1
	Non-palpable	-1
CNS	Awake	+2
	Responds to voice, pain or temporary loss of consciousness noted	+1
	Unresponsive	-1
Fractures	None	+2
	Closed or suspected	+1
	Multiple closed or open	-1
Wounds	None	+2
	Minor *	+1
	Major, penetrating or burns **	-1

(Possible Scoring of - 6 to + 12, decreases with severity of condition)

9 – 12	Minor Trauma
6 – 8	Potentially life-threatening
0 – 5	Life threatening
< 0	Usually fatal

Score of 9 or less, transport to the Trauma Center

Key

1	No assistance required
2	Protected by patient, but requires continuous monitoring for changes, may require positioning
3	Requires airway adjuncts NPA, OPA, and ET or suctioning
*	Abrasions, minor lacerations, burns < 10% and not involving hands, face, feet or genitalia
**	Penetrating, major avulsions, lacerations, burns > 10% or involving hands, face, feet, or genitalia

Bellevue Fire Department

C-SPINE CLEARANCE

Revised: September 2013 Protocol: 4-14	Job Classes: Paramedic Category: TRAUMA

Cervical spine immobilization can prevent spinal cord damage and subsequent paralysis in patients with traumatic injuries. However, cervical spine immobilization is not without risks and potential complications. In select patients, unstable cervical spine injury can be reliably ruled out using a systematic approach incorporating history and physical exam.

Indications

1. Patients with known or suspected traumatic injury.
2. Patients with a focal neurologic deficit following a traumatic injury

Contraindications

1. Patient age less than 16 years.
2. Rigid spine disorders (DISH, ankylosing spondylitis) or Disorders with known C1C2 abnormalities (Down's syndrome, Rheumatoid Arthritis)
3. Penetrating trauma (stab, GSW) near the spinal column
4. Inability to effectively communicate with EMS provider, including language barrier

Procedure

1. Perform patient assessment and record vital signs.
2. Assess that patient meets criteria for this protocol.
3. Ensure there are no contraindications to use of this protocol.
4. Follow the protocol as described below.

Consider cervical spine injury in the following settings:

- fall from a height (>1m, 5 stairs)
- motor vehicle collision (high speed, rollover, ejection, motorcycle, pedestrian struck)
- obvious and significant blunt trauma above the clavicles
- age > 65 years
- found unconscious with signs of significant trauma above the clavicles

Note: The following mechanisms are not considered high risk for C-spine injury

- falling from a standing position where there are no signs of trauma above the clavicles (e.g. cardiac syncope, TASER)
- minor trauma to head and neck (abrasions, lacerations)
- penetrating trauma below the level of the clavicles (including gunshot wound) **unless** neurologic deficit present

Assessment of the Patient

Once the need for assessment of the C-spine is identified, the factors listed below must be identified. Each factor must be ruled out before going on to the next step. If any factor cannot be ruled out, then the patient must be immobilized.

1) Altered Mental Status

Assess that the patient as alert, oriented to place, time and the injury event, and is cooperative with questioning and physical examination. If so, then altered mental status is ruled out.

2) Intoxication
Determine if the patient is under the influence of alcohol or illicit drugs. History of intoxicant ingestion may be available. Patients under the influence of intoxicants may exhibit slurred speech, confusion or difficulty mobilizing (if mobile at scene). The presence or absence of an odor of liquor on the breath is not a reliable physical sign. When in doubt, assume intoxication and immobilize.

3) Distracting Painful Injury
Painful injuries such as major fractures or large burns may distract the patient such that he/she might not notice that there is pain to the area of the C-spine. Unless the mechanism of injury clearly makes a C-spine injury unlikely, trauma victims with extremely painful injuries should have spinal immobilization.

4) Focal Neurologic Deficit
If a trauma patient exhibits lack of movement or complains of decreased sensation in a given region (e.g. not moving legs, not moving one or both arms), then the patient should be immobilized.

5) Tenderness to Midline of Posterior Neck
If #1-4 have been ruled out, palpate the midline of the posterior neck with one finger, starting at the base of the skull, and moving down the spinous processes to a point between the shoulder blades. If the patient complains of tenderness at any point, the C-spine should be immobilized.

6) Pain or Neurologic Symptoms on Motion
If there is no midline tenderness, ask the patient to turn their head 45° to the right, and then 45° to the left. If the patient complains of pain, weakness or changes in sensation at any point while moving the neck, they are to be instructed to stop, and the C-spine should be immobilized. If the patient is able to move both directions without pain or neurologic symptoms, then the patient does not require C-spine immobilization.

Bellevue Fire Department

UPPER AIRWAY OBSTRUCTION

Revised: September 2013 Protocol: 5-01	Job Classes: EMT, AEMT, Paramedic Category: MEDICAL

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. If patient is able to move air, encourage patient to cough
4. Support ventilations with a BVM and supplemental oxygen
5. If patient cannot move air, perform the Heimlich maneuver until the object is expelled or the patient goes unresponsive
6. If the patient goes unresponsive, start CPR
7. Do not perform any blind finger sweeps
8. Prepare to assist ALS with advanced airways

Paramedic

1. Attempt to visualize FBAO via direct laryngoscopy and remove with magill forceps if able
2. Consider cricothyrotomy via Quik Trach – Appendix C

Bellevue Fire Department

ALTERED MENTAL STATUS

Revised: September 2013
Protocol: 5-02

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. If unresponsive, check breathing and pulse
3. If adequately breathing, apply oxygen and monitor SpO2 (goal is to maintain SpO2 >94%)
4. If inadequately breathing, support respirations with a BVM and supplemental oxygen
5. Check Blood Glucose level
    a. If BGL is less than 70 or signs of relative hypoglycemia are present, administer oral glucose if the patient is able to follow directions and has an intact gag reflex
6. Prepare IV Supplies
7. Rule out other causes of altered mental status (stroke, carbon monoxide, drugs/alcohol, etc)
8. Apply cardiac monitor

AEMT

1. Establish IV with 1 L of 0.9% Saline
2. Administer Dextrose 50% 25 g IV
3. If unable to start IV, consider Glucagon 1 mg IM
4. If patient shows signs of respiratory depression secondary to opiate overdose, consider Narcan 0.4 mg IV/IN. May repeat 0.4 mg dose increments to 2 mg.

Paramedic

1. Interpret cardiac rhythm and follow appropriate protocol if applicable

Bellevue Fire Department

SEIZURES

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 5-03	Category: MEDICAL

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Open and maintain airway, do not place fingers or OPA in the mouth
3. Provide supplemental oxygen, goal is to maintain SpO2 >94%
4. Check Blood Glucose Level
5. Remove objects that may strike the patient, if actively seizing
6. Prepare IV supplies

AEMT

1. Establish IV, consider use of coban for combative patients
2. Administer Dextrose 50% 25 g IV if BGL is less than 70 mg/dL
3. Administer Narcan 0.4 mg IV if indicated for respiratory depression secondary to opiate OD

Paramedic

1. For recurrent seizures, administer Ativan 0.05 mg/kg IV/IO/IN/PR to a max of 4 mg

Bellevue Fire Department

ACUTE ALLERGIC REACTION / ANAPHYLAXIS

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 5-04	Category: MEDICAL

Difficulty Breathing in the presence of urticaria, wheezing and/or contact with a known allergen (acute allergic reactions/anaphylaxis)

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Rapid physical exam to find possible source, remove source from patient
4. Provide supplemental oxygen, goal is to maintain SpO2 >94%
5. If inadequate ventilations, support with BVM and supplemental oxygen
6. Administer Albuterol 2.5 mg NEB if wheezes are present
    a. NEB may have to be inlined with BVM using conversion kit
7. Consider Epi-Pen. Guidelines for administration are as follows:
    a. Only able to speak in one-two word sentences
    b. Low/Falling SpO2 saturations even with supplemental oxygen
    c. Diminished to absent lung sounds
    d. Retractions
    e. Pale or cyanotic skin
8. Apply cardiac monitor

AEMT

1. Establish IV
2. Consider Epinephrine 1:1,000 0.3 mg IM, may be repeated every 5 minutes

Paramedic

1. Consider Epinephrine 1:10,000 0.3 mg IV/IO, may repeat every 5 minutes as needed
2. Consider Diphenhydramine 25-50 mg IV/IO
3. Consider RSA if failed airway – Appendix L
    a. Quick Trach should be available as a backup device

Bellevue Fire Department

ASTHMA

Revised: September 2013
Protocol: 5-05

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Provide supplemental oxygen, goal is to maintain SpO2 >94%
4. If inadequate ventilations, support with BVM and supplemental oxygen
5. Administer Albuterol 2.5 mg NEB if wheezes are present
    a. NEB may have to be inlined with BVM using conversion kit
6. Apply cardiac monitor
7. If adequate ventilations, consider CPAP to a max of 5 cmH2O
8. Consider capnography

AEMT

1. Establish IV
2. If adequate ventilations, consider CPAP

Paramedic

1. Interpret capnography waveform
2. Consider Ativan 0.05 mg/kg IV/IO/IN to a max of 4 mg for anxiety with CPAP
3. Consider RSA if failed airway – Appendix L
    a. Quick Trach should be available as a backup device

Bellevue Fire Department

COPD / EMPHYSEMA / CHRONIC BRONCHITIS

Revised: September 2013
Protocol: 5-06

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Provide supplemental oxygen, goal is to maintain SpO2 >94%
4. If inadequate ventilations, support with BVM and supplemental oxygen
5. Administer Albuterol 2.5 mg NEB if wheezes are present
    a. NEB may have to be inlined with BVM using conversion kit
6. Apply cardiac monitor
7. If adequate ventilations, consider CPAP to a max of 5 cmH2O
8. Consider capnography

AEMT

1. Establish IV
2. If adequate ventilations, consider CPAP

Paramedic

1. Administer DuoNeb 3 mg NEB – this may only be given once and followed with Albuterol
2. Interpret capnography waveform
3. Consider Ativan 0.05 mg/kg IV/IO/IN to a max of 4 mg for anxiety with CPAP
4. Consider RSA if failed airway – Appendix L
    a. Quick Trach should be available as a backup device

Bellevue Fire Department

EXPOSURE

Revised: September 2013
Protocol: 5-07

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL

HYPOTHERMIA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. If unconscious, assess pulse and breathing status
3. Apply cardiac monitor
4. Remove patient from cold environment, move patient very carefully. Rough movement can precipitate cardiac arrest. Remove cold/wet clothing and begin active rewarming:
    a. Prepare warm IV supplies
    b. Apply hot packs
    c. Turn on heat
5. If patient is in cardiac arrest and has a shockable rhythm, defibrillate only one time
6. Assess blood glucose level

AEMT

1. Establish IV of warm 0.9% Saline and infuse rapidly. Consider 2 large bore IVs

Paramedic

1. If the patient is in cardiac arrest:
    a. Do not administer drugs if the core temperature is below 86°F
    b. If the core temperature is between 86°F and 93.2°F, drugs may administered, but double the time intervals
    c. Follow appropriate cardiac arrest protocol

HYPERTHERMIA

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. If unconscious, assess pulse and breathing status
3. Apply cardiac monitor
4. Remove patient from warm environment
    a. Prepare cool IV supplies
    b. Apply cold packs
    c. Turn on air conditioning
5. Assess blood glucose level

AEMT

1. Establish IV of cool 0.9% Saline and infuse rapidly. Consider 2 large bore IVs.

Paramedic

1. Consider Zofran 4-8 mg IV/IO/PO for nausea/vomiting

Bellevue Fire Department

HYPOVOLEMIC SHOCK

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 5-08	Category: MEDICAL

Shock is present when pulse greater than 120 and systolic BP less than 100 mmHg in a previously normotensive patient or systolic drops 40-50 mmHg in a previously hypertensive patient, especially if accompanied by pale, clammy skin and decreased level of consciousness

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Blood Glucose check
3. Orthostatic Vital Signs
4. Prepare IV supplies
5. Apply cardiac monitor

AEMT

1. Establish IV and infuse fluids, consider starting 2 IVs

Paramedic

1. Interpret cardiac rhythm and treat accordingly

Bellevue Fire Department

POISONS

Revised: September 2013
Protocol: 5-09

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL

Consider calling Poison Control Center:

1. Omaha area----------955-5555
2. Outside of Omaha area---------1-800-222-1222

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. If unresponsive, check breathing and pulse
3. If adequately breathing, apply oxygen and monitor SpO2 (goal is to maintain SpO2 >94%)
4. If inadequately breathing, support respirations with a BVM and supplemental oxygen
5. Check Blood Glucose level
    a. If BGL is less than 70 or signs of relative hypoglycemia are present, administer oral glucose if the patient is able to follow directions and has an intact gag reflex
6. Prepare IV Supplies
7. Rule out other causes of altered mental status (stroke, carbon monoxide, drugs/alcohol, etc)
8. Apply cardiac monitor

AEMT

1. Establish IV with 1 L of 0.9% Saline
2. Administer Dextrose 50% 25 g IV
3. If unable to start IV, consider Glucagon 1 mg IM for hypoglycemia
4. If patient shows signs of respiratory depression secondary to opiate overdose, consider Narcan 0.4 mg IV/IN. May repeat 0.4 mg dose increments to 2 mg.

Paramedic

1. Interpret cardiac rhythm and follow appropriate protocol if applicable
2. If patient is actively vomiting, do not administer Zofran for known ingested poison
3. If known or high suspicion of Tricyclic Antidepressant (TCA) overdose, consider administration of Sodium Bicarb 1 mEq/kg IV/IO if any of the following are present (list of TCAs in Appendix D):
    a. Prolonged or widening QRS (>.12 ms)
    b. Ventricular dysrhythmias
    c. Hypotension unresponsive to 500 cc fluid bolus
    d. Seizure with no previous history of seizures

Bellevue Fire Department

TOXIC INHALATION

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 5-10	Category: MEDICAL

EMT

1. Remove victim from toxic environment, decon may be necessary
2. ABC, SAMPLE, OPQRST Assessment
3. Assess lung sounds
4. Provide supplemental oxygen, goal is to maintain SpO2 >94%
5. If inadequate ventilations, support with BVM and supplemental oxygen
6. Administer Albuterol 2.5 mg NEB if wheezes are present
    a. NEB may have to be inlined with BVM using conversion kit
7. Apply cardiac monitor
8. Consider capnography
9. Assess carboxyhemoglobin using the Rad-57
10. Consider transport to the hyperbaric chamber for severe CO exposure – Nebraska Medical Center

AEMT

1. Establish IV, titrate to vital signs

Paramedic

1. Interpret capnography waveform

	Bellevue Fire Department **STROKE**	
	Revised: September 2013 Protocol: 5-11	Job Classes: EMT, AEMT, Paramedic Category: MEDICAL

Acute Stroke – Any suspected Stroke or TIA that occurs within the 3 hour time frame of symptom onset **OR** Any suspected Stroke or TIA where a definitive timeframe of onset cannot be determined
Non-Acute Stroke – Any suspected Stroke or TIA that has occurred beyond the 3 hour time frame of onset
Signs and Symptoms include, but are not limited to:

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Perform Cincinnati Stroke Scale (Appendix A) and assess for the following:
   a. Sudden numbness or weakness of the face, arm, or leg – especially on one side of the body
   b. Sudden confusion, trouble speaking or understanding
   c. Sudden trouble seeing in one or both eyes
   d. Sudden trouble walking, dizziness, loss of balance or coordination
   e. Sudden, severe headache with no known cause
3. Maintain airway and administer supplemental oxygen, goal is to maintain SpO2 >94%
4. Check blood sugar level
5. Consider administering oral glucose if patient conscious and able to maintain his or her own airway
6. Prepare IV supplies
7. Activate a "Code Stroke" for positive findings

AEMT

1. Establish 2 large bore IVs, one bag and one lock
2. If blood glucose is less than 70, administer Dextrose 50% 25 g IV
   a. If IV is not obtained, consider Glucagon 1mg IM

NOTE : Nitroglycerine and Aspirin administration are absolutely contraindicated if you suspect an Acute or Non-Acute Stroke

These guidelines are to be used when you suspect an acute stoke has occurred or is occurring:
Establish a baseline for when the patient was last seen with no acute neurological changes.

a. If this time of symptom onset is greater than 3 hours prior to EMS arrival, transport the patient to the closest appropriate hospital.

b. If the patient was last seen normal less than 3 hours ago you may emergently transport the patient to the closest available Stroke Center

The designated Stroke Center that Bellevue Fire Medic Units is authorized to transport to is:

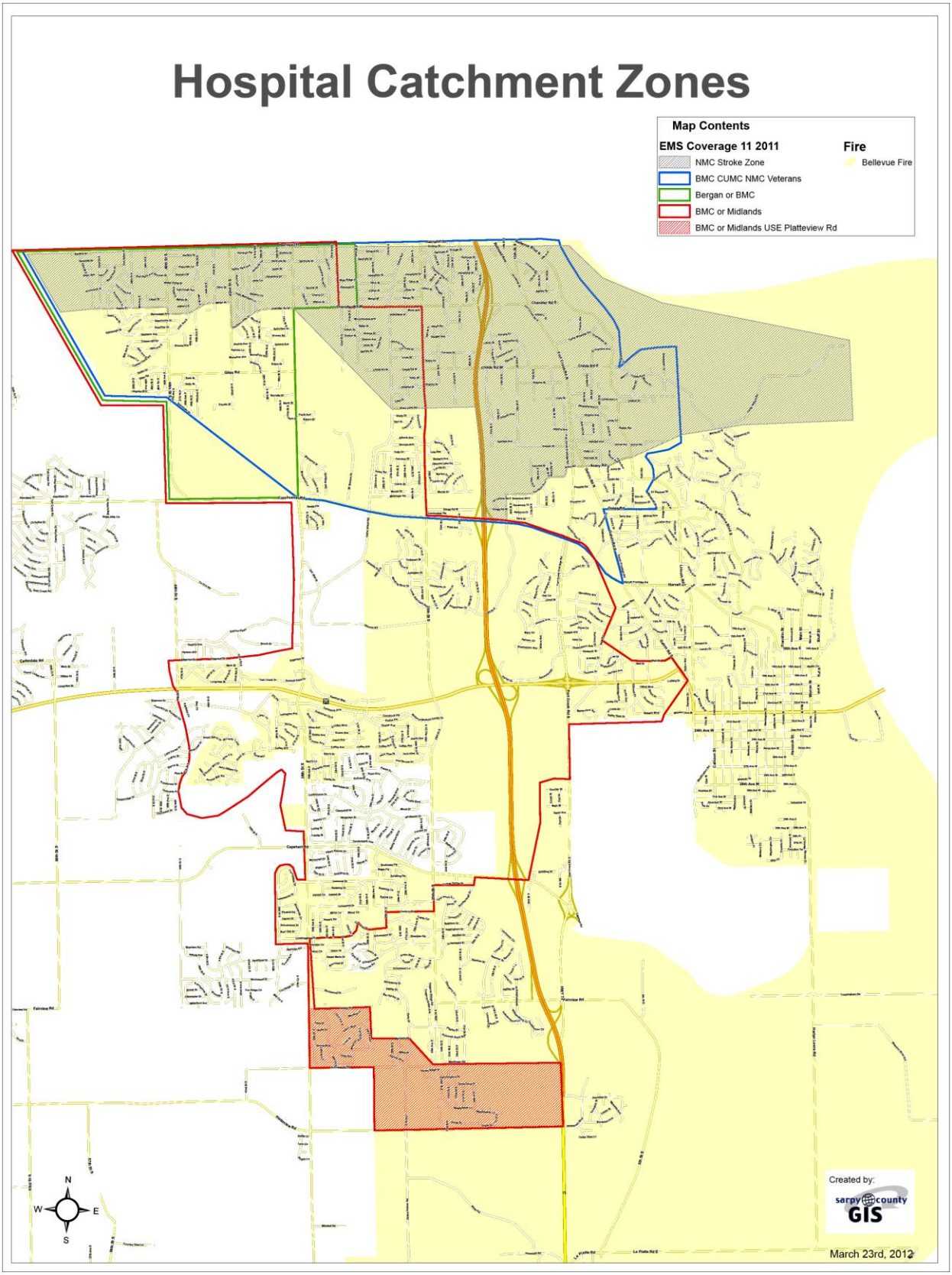
The Bellevue Medical Center
2500 BMC Dr. Bellevue, NE 68123

Bellevue Fire Department

STROKE

Revised: September 2013
Protocol: 5-11

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL



Bellevue Fire Department

ORGANOPHOSPHATE POISONING

Revised: September 2013 Protocol: 5-12	Job Classes: EMT, AEMT, Paramedic Category: MEDICAL

These DuoDote Kits are designated for Fire/EMS personnel only, they are not to be administered to the general public.

EMT

1. Protect yourself and your crew, full PPE and SCBA precautions.
2. Consider the following if the patient has been exposed to a known nerve agent (Sarin, VX, Soman, Tabun), fertilizer (Malathion, Parathion) and/or exhibits the following signs and symptoms **SLUDGEM**:
   a. Salivation – excessive airway secretions
   b. Lacrimation – excessive tear production
   c. Urination
   d. Defecation – diarrhea
   e. Gastric motility – upset stomach,
   f. Emesis – vomiting
   g. Miosis – constricted pupils
3. Immediate patient decontamination*.
4. Airway, breathing, circulation
   a. Aggressive airway support should be anticipated, constantly assess lung sounds
   b. Apply supplemental oxygen, maintain SpO2 >94%
   c. Apply cardiac monitor
   d. Administer Duo-Dote Auto-Injector (600 mg 2-Pam Chloride and 2mg Atropine)
      1. For MILD symptoms – administer 1 Duo-Dote Auto-Injector in the lateral thigh.
      2. For MODERATE symptoms – administer 2 Duo-Dote Auto-Injectors in the lateral thigh.
      3. For SEVERE symptoms – administer 3 Duo-Dote Auto-Injectors in the lateral thigh

AEMT

1. Establish 2 large bore IVs

Paramedic

1. Consider 10 mg Valium Auto-Injector or Ativan 0.05 mg/kg IV/IO/IN to a max of 4 mg for siezure
2. Continue to reassess the patient, administer 1 mg of Atropine as needed to dry excessive airway secretions every 5-10 minutes**.

*Receiving facility should be notified early of need for decontamination.

**Do not use patient pupil size to determine whether or not more Atropine should be administered, this should be determined by the presence of airway secretions.

Bellevue Fire Department

BEHAVIORAL EMERGENCIES

Revised: September 2013 Protocol: 5-13	Job Classes: EMT, AEMT, Paramedic Category: MEDICAL

A patient with a behavioral emergency should be transported to the closest hospital for medical clearance and psychiatric evaluation.

ALWAYS consider a medical etiology for a behavioral emergency.

Patients with a behavioral disturbance that do not have any apparent injuries do not need to be transported by ambulance. These patients should be transported with law enforcement. If they have any injuries (cuts, drug OD, etc) then they should be transported by ambulance.

If at any time you anticipate a patient becoming violent, extra personnel should be in back attending to the patient. Physical restraints should be close by for deployment is needed.

If a patient becomes combative during transport and cannot be controlled by the caregiver(s) the following should happen:

- The medic unit is to pull over immediately and activate the emergency button, the driver should notify dispatch of the following:
  - Medic unit's current location
  - Brief description of events
  - Resources needed
- Law Enforcement should be requested to respond
- The driver should assist the caregiver(s) in attempting to control the patient – do NOT endanger yourself or your crew in an attempt to control a patient

EMT

1. ABC, SAMPLE, OPQRST Assessment

AEMT

1. Establish IV if indicated

Paramedic

1. Sedation may be considered for patients are exhibiting signs of hyperactivity or increasing agitation:
   a. Administer Ativan 0.05 mg/kg IV/IO/IN to a max of 4 mg
   b. Once sedated, physical restraints must be applied, if not already done, until the patient care is turned over to the receiving hospital.

Bellevue Fire Department

DIABETIC EMERGENCIES

Revised: September 2013
Protocol: 5-14

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL

Hypoglycemia (Blood Glucose less the 70 mg/dL)

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. If unresponsive, check breathing and pulse
3. If adequately breathing, apply oxygen and monitor SpO2 (goal is to maintain SpO2 >94%)
4. If inadequately breathing, support respirations with a BVM and supplemental oxygen
5. Check Blood Glucose level
    a. If BGL is less than 70 or signs of relative hypoglycemia are present, administer oral glucose if the patient is able to follow directions and has an intact gag reflex
6. Prepare IV Supplies
7. Rule out other causes of altered mental status (stroke, carbon monoxide, drugs/alcohol, etc)
8. Apply cardiac monitor

AEMT

1. Establish IV with 1 L of 0.9% Saline
2. Administer Dextrose 50% 25 g IV
3. If unable to start IV, consider Glucagon 1 mg IM

Paramedic

1. Interpret cardiac rhythm and follow appropriate protocol if applicable

Hyperglycemia (Blood sugar more than 300 mg/dL with signs of dehydration)

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. If unresponsive, check breathing and pulse
3. If adequately breathing, apply oxygen and monitor SpO2 (goal is to maintain SpO2 >94%)
4. If inadequately breathing, support respirations with a BVM and supplemental oxygen
5. Check Blood Glucose level
6. Prepare IV Supplies
7. Rule out other causes of altered mental status (stroke, carbon monoxide, drugs/alcohol, etc)
8. Apply cardiac monitor
9. Consider capnography

AEMT

1. Establish IV with 1 L of 0.9% Saline and give 500-1000cc bolus

Paramedic

1. Interpret cardiac rhythm and follow appropriate protocol if applicable
2. Interpret Capnography waveform

Bellevue Fire Department

POST INTUBATION SEDATION

Revised: September 2013
Protocol: 5-15

Job Classes: EMT, AEMT, Paramedic
Category: MEDICAL

EMT

1. Control and maintain established airway
2. Monitor capnography – goal is 35-45 mmHg
3. Consider application of physical restraints
4. Prepare IV supplies

AEMT

1. Establish IV and tape down with coban to protect line

Paramedic

1. Administer Ativan 0.05 mg/kg IV/IO/IN to a max of 4mg.

Bellevue Fire Department

IMMINENT DELIVERY

Revised: September 2013 Protocol: 6-01	Job Classes: EMT, AEMT, Paramedic Category: OBGYN

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Inspect perineum for crowning and or signs of imminent delivery
    a. If delivery is not imminent, prepare for transport
3. Assess for complications of child birth
4. If delivery is imminent, prepare mother for delivery
    a. Drape towels and blankets all around mother
    b. Open OB kit and arrange tools
    c. Instruct mother to push, hold gentle pressure on head when it presents
    d. Once head is out, instruct mother to stop and suction baby's mouth, then nose
    e. Direct the head downward to assist with delivery of top shoulder
    f. Once top should delivers, guide head up to deliver bottom shoulder
    g. Advise dispatch of time of birth
    h. Clamp the umbilical cord approximately 3-4 inches from baby, and 1-2 inches apart
    i. Cut the cord
    j. Calculate APGAR scores and complete assessment of the infant
    k. Prepare mother for transport and anticipate delivery of the placenta
5. If hemorrhage occurs, massage fundus

AEMT

1. Establish IV access

Bellevue Fire Department

NEONATAL CARE

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 6-02	Category: OBGYN

(General Care Given Newborn, Full-Term or Premature)

EMT

1. Stimulate baby to breathe and clean baby with towels
2. Keep baby warm
3. Calculate APGAR score at 1 and 5 minutes of life (Appendix H)
4. Measure baby using Broselow Tape
5. Check blood glucose with heelstick lancet
6. If respirations are not adequate and/or pulse is below 80 bpm, administer oxygen with a BVM
7. If pulse/respirations do not improve, begin chest compressions

AEMT

1. Consider IV access
2. Consider fluid bolus 20 cc/kg if needed

Paramedic

1. If blood glucose is below 40 mg/dL, administer Dextrose 10% 1-2 cc/kg
2. Refer to Broselow Tape for additional drug dosages if needed for resuscitation

Bellevue Fire Department

MECONIUM STAINING

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 6-03	Category: OBGYN

EMT

1. Place baby in blankets and pad under the shoulders
2. Suction airway using bulb syringe
3. Assemble suction supplies and meconium aspirator from Broselow kit
4. If needed, ventilate infant using BVM

Paramedic

1. Under direct laryngoscopy, intubate the infant with a 3.0 ET tube and suction upon withdrawl
2. Repeat procedure using a new ET tube each time

Bellevue Fire Department

CHILDBIRTH COMPLICATIONS

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 6-04	Category: OBGYN

EMT

1. If hypotension occurs, place mother in left lateral recumbent position
2. If prolapsed cord presents, do not attempt to replace cord. Briefly assess for a pulse.
    a. If no pulse, place gloved fingers in the vagina to raise infants head off of the cord
    b. Keep cord worm and moist
3. If breech presentation, do not stimulate or attempt to replace limb
4. If breech presentation and the baby's head is not able to be delivered, ensure patent airway for baby to breathe. A "V" shape may need to be form with fingers inserted into the vagina.
5. If nuchal cord presents, attempt to slip the cord around the baby's neck before delivery. If cord cannot be moved clamp the cord and CAUTIOUSLY cut the cord.
6. If significant hemorrhage, attempt fundus massage

Bellevue Fire Department

POSTPARTUM HEMORRHAGE

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 6-05	Category: OBGYN

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Attempt fundus massage
3. Place gauze around the perineum
4. Prepare IV supplies

AEMT

1. Establish IV access and titrate to vital signs

Bellevue Fire Department

HYPERTENSIVE DISORDERS OF PREGNANCY

Revised: September 2013
Protocol: 6-06

Job Classes: EMT, AEMT, Paramedic
Category: OBGYN

(Toxemia of Pregnancy/Eclampsia - Toxemia is characterized by hypertension and diffuse edema)

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Apply supplemental oxygen if indicated
3. Assess for diffuse edema
4. Assess blood glucose level
5. If indicated administer oral glucose
6. Prepare IV supplies
7. Apply cardiac monitor

AEMT

1. Establish IV access
2. If blood glucose is less than 70, administer Dextrose 50% 25 g IV

Paramedic

1. Interpret cardiac waveform
2. If seizures being to occur, administer Magnesium Sulfate, 5g mixed in 50cc D5W given IV/IO over 5 minutes (Appendix B)
3. If seizures persist, consider Ativan 0.05 mg/kg IV/IO/IN to a max of 4 mg

Bellevue Fire Department

VAGINAL BLEEDING

Revised: September 2013
Protocol: 6-07

Job Classes: EMT, AEMT, Paramedic
Category: OBGYN

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Attempt fundus massage
3. Place gauze around the perineum
4. Prepare IV supplies

AEMT

1. Establish IV access and titrate to vital signs

Bellevue Fire Department

GENERAL GUIDELINES

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 7-01	Category: PEDIATRICS

1. This protocol acknowledges that age limits for pediatric patients should be flexible and that the exact age of a patient is not always known. Between the ages of 13 and 16, personnel should use his / her own judgment in making medical care decisions. Personnel always have the option of contacting medical control direct for assistance in decision making.

2. See General Operations section (Refusal of Care) for patient consent and refusal guidelines

3. Parents / caregivers should be allowed to stay with children during assessment and transport, if appropriate.

4. Personnel are strongly encouraged to use current length based resuscitation tapes and guidelines for dosage and equipment recommendations for pediatric patients.

    a. Pediatric dosing for drugs or electricity should never exceed the adult dose.
    b. Refer to the weight based tape for medication and electrical dosing

5. If specific protocol not found in Pediatric Section, personnel should follow appropriate Adult Protocol, adjusting all medications and interventions to pediatric dosages and guidelines.

Bellevue Fire Department

AIRWAY MANAGEMENT AND OXYGEN THERAPY

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 7-02	Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess Lung Sounds
3. Administer oxygen as needed, if pt will not tolerate mask consider blow by oxygen
4. Consider OPA for any unconscious patient
5. If positioning the airway, ensure padding is placed under the shoulders to maintain patent airway
6. Choose proper size King Tube and BVM based upon patient's weight and size

Paramedic

1. Quik Trach size should be chosen using patient's weight

Bellevue Fire Department

IV THERAPY

Revised: September 2013
Protocol: 7-03

Job Classes: EMT, AEMT, Paramedic
Category: PEDIATRICS

EMT

1. Prepare IV supplies

AEMT

1. Establish IV access if indicated
    a. No more than 2 attempts per patient
    b. Do not delay scene time for IV access

Paramedic

1. If IV cannot be started, establish an IO on all critical pediatric patients

Bellevue Fire Department

CARDIOPULMONARY ARREST

Revised: September 2013
Protocol: 7-04

Job Classes: EMT, AEMT, Paramedic
Category: PEDIATRICS

EMT

1. Assess for Pulse and ABCs
2. If pulseless, start Compressions at 100/min
3. If pulse is less than 60 with poor perfusion and not responsive to oxygenation, start compressions
4. Apply AED and analyze rhythm (continue compressions while charging)
5. Make sure everyone is clear and deliver shock
6. Apply AutoPulse unless contraindicated
7. Bag patient via BVM with OPA and 15 lpm Oxygen
8. Establish King Tube with Capnography – ETCO2 should be at least 10 mmHg
9. Prepare IV Supplies

AEMT

1. Initiate IV and give fluid bolus

Paramedic

1. Attach monitor and interpret rhythm and capnography
2. If IV cannot be established, establish an IO
3. Administer .01 mg/kg of Epinephrine 1:10,000 IV/IO every 3-5 minutes
4. Rule out H's and T's
    a. Consider Magnesium Sulfate 1-2 g for Torsades de Pointes
    b. Consider Sodium Bicarb 1 mEq/kg for acidosis
    c. Consider Calcium Gluconate 1000 mg for suspected hyperkalemia
    d. Consider Narcan 2 mg for suspected overdose
    e. Consider Dextrose for hypoglycemia:
        i. Patient is 8 years or older - Administer **Dextrose 50%** (1 gm/kg) IV/IO to 25 g
        ii. Patient is 6 months to 8 years - Administer **Dextrose 25%** 2-3 ml/kg IV/IO
        iii. Patient is 1 month to 6 months - Administer **Dextrose 10%** 5 ml/kg IV/IO
        iv. Patient is less than 1 month - Administer **Dextrose 10%** 3 ml/kg IVO/IO

Bellevue Fire Department

V-FIB / PULSELESS V-TACH

Revised: September 2013 Protocol: 7-05	Job Classes: EMT, AEMT, Paramedic Category: PEDIATRICS

EMT

1. Assess for Pulse and ABCs
2. If pulseless, start Compressions at 100/min
3. Apply AED and analyze rhythm (continue compressions while charging)
4. Make sure everyone is clear and deliver shock
5. Bag patient via BVM with OPA and 15 lpm Oxygen
6. Establish King Tube with Capnography – ETCO2 should be at least 10 mmHg
7. Prepare IV Supplies

AEMT

1. Initiate IV and give fluid bolus

Paramedic

1. Attach monitor and interpret rhythm and capnography
2. If IV cannot be established, establish an IO
3. Defibrillate at 2 J/kg, then at 4 J/kg for any following shocks
4. Administer .01 mg/kg of Epinephrine 1:10,000 IV/IO every 3-5 minutes
5. Administer 5 mg/kg of Amiodarone IV/IO
6. Rule out H's and T's
    a. Consider Magnesium Sulfate 1-2 g for Torsades de Pointes
    b. Consider Sodium Bicarb 1 mEq/kg for acidosis
    c. Consider Calcium Gluconate 500 mg for suspected hyperkalemia
    d. Consider Narcan 2 mg for suspected overdose
    e. Consider Dextrose for hypoglycemia:
        i. Patient is 8 years or older - Administer **Dextrose 50%** (1 gm/kg) IV/IO to 25 g
        ii. Patient is 6 months to 8 years - Administer **Dextrose 25%** 2-3 ml/kg IV/IO
        iii. Patient is 1 month to 6 months - Administer **Dextrose 10%** 5 ml/kg IV/IO
        iv. Patient is less than 1 month - Administer **Dextrose 10%** 3 ml/kg IVO/IO

Bellevue Fire Department

ASYSTOLE / PEA

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 7-06	Category: PEDIATRICS

EMT

1. Assess for Pulse and ABCs
2. If pulseless, start Compressions at 100/min
3. Apply AED and analyze rhythm (continue compressions while charging)
4. Bag patient via BVM with OPA and 15 lpm Oxygen
5. Establish King Tube with Capnography – ETCO2 should be at least 10 mmHg
6. Prepare IV Supplies

AEMT

1. Initiate IV and give fluid bolus

Paramedic

1. Attach monitor and interpret rhythm and capnography
2. If IV cannot be established, establish an IO
3. Administer .01 mg/kg of Epinephrine 1:10,000 IV/IO every 3-5 minutes
4. Rule out H's and T's
    a. Consider Magnesium Sulfate 1-2 g for Torsades de Pointes
    b. Consider Sodium Bicarb 1 mEq/kg for acidosis
    c. Consider Calcium Gluconate 500 mg for suspected hyperkalemia
    d. Consider Narcan 2 mg for suspected overdose
    e. Consider Dextrose for hypoglycemia:
        i. Patient is 8 years or older - Administer **Dextrose 50%** (1 gm/kg) IV/IO to 25 g
        ii. Patient is 6 months to 8 years - Administer **Dextrose 25%** 2-3 ml/kg IV/IO
        iii. Patient is 1 month to 6 months - Administer **Dextrose 10%** 5 ml/kg IV/IO
        iv. Patient is less than 1 month - Administer **Dextrose 10%** 3 ml/kg IVO/IO

Bellevue Fire Department

GENERAL CARDIAC DYSRHYTHMIA

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 7-07	Category: PEDIATRICS

In general, pediatric patients do not have cardiac dysrhythmias due to cardiac disease. Most often, the cause of dysrhythmias in pediatrics is due to an airway/ventilation or volume condition. For pediatric patients with signs & symptoms of poor perfusion, clear & maintain the airway, provide BVM ventilations and fluid resuscitation (@ 20 ml/kg) as needed.

Most pediatric cardiac arrest guidelines follow the adult protocols. Personnel should refer to a pediatric reference guide (length based pediatric tape) if assistance is needed with drug dosages for pediatric patients.

*Drug and electrical doses should never exceed the adult dose

Stable Pediatric Patient - If tolerating the rhythm, monitor and provide supportive care without medications or electrical intervention

Unstable Pediatric Patient - Treatments are based on the patient's condition and how rapidly a medication may be delivered versus how rapidly an electrical therapy can be performed

Bellevue Fire Department

BRADYCARDIA

Revised: September 2013
Protocol: 7-08

Job Classes: EMT, AEMT, Paramedic
Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies
5. Ensure good oxygenation

AEMT

1. Initiate IV with NS TKO.

Paramedic

1. Interpret 12 Lead ECG
2. For Stable Bradycardias, Atropine 0.02 mg/kg may be considered
3. For Unstable Bradycardias, start Transcutaneous Pacing Immediately (Anterior – Posterior pad placement)
    a. Consider Ativan 0.1 mg/kg for sedation, do not delay pacing
    b. Verify electrical and mechanical capture through palpation of pulse that matches monitor
4. Consider additional blood pressure support (Appendix B):
    a. Dopamine Drip 2-20 mcg/kg/min
    b. Epinephrine Drip 2-10 mcg/min

Bellevue Fire Department

V-TACH WITH A PULSE

Revised: September 2013 Protocol: 7-09	Job Classes: EMT, AEMT, Paramedic Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies

AEMT

1. Initiate IV with NS TKO.

Paramedic

1. Interpret 12 Lead ECG
2. If Stable, consider Amiodarone infusion 5 mg/kg over 10 minutes
3. If Stable, consider Adenosine 0.1 mg/kg rapid bolus, may be repeated once with 0.2 mg/kg.
    a. Adenosine may ONLY be used for MONOMORPHIC V-tach
4. If Unstable, immediately prepare for synchronized cardioversion at 0.5 J/kg
    a. Consider Ativan 0.1 mg/kg IV/IO/IN for sedation if time allows
    b. May be repeated with increasing Joules if no response 1 J/kg, 2 J/kg, etc.)

Bellevue Fire Department

PAROXYSMAL SUPRAVENTRICULAR TACHYCARDIA

Revised: September 2013 Protocol: 7-10	Job Classes: EMT, AEMT, Paramedic Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Obtain Baseline Vital Signs
3. Obtain 12 Lead ECG (see CARDIO 3.16)
4. Prepare IV Supplies

AEMT

1. Initiate IV with NS TKO.
    a. IV should be as close to the heart as possible, large bore is preferred.

Paramedic

1. Consider vagal maneuvers
2. Interpret 12 Lead ECG
3. If Stable, consider Adenosine 0.1 mg/kg rapid bolus, may be repeated once with 0.2 mg/kg.
    a. Adenosine may ONLY be used for SVT, rule out A-Fib with RVR and A-Flutter with RVR with a 12 Lead
4. If Unstable, immediately prepare for synchronized cardioversion at 0.5 J/kg
    a. Consider Ativan 0.1 mg/kg IV/IO/IN for sedation if time allows
    b. May be repeated with increasing Joules if no response (1 J/kg, 2 J/kg, etc.)
5. If polymorphic or torsades de pointes, consider magnesium sulfate 1 – 2 gms slow IV push

Bellevue Fire Department

WHEEZING

Revised: September 2013
Protocol: 7-11

Job Classes: EMT, AEMT, Paramedic
Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Provide supplemental oxygen, goal is to maintain SpO2 >94%
4. If inadequate ventilations, support with BVM and supplemental oxygen
5. Administer Albuterol 2.5 mg NEB if wheezes are present
    a. NEB may have to be inlined with BVM using conversion kit
6. Apply cardiac monitor
7. Consider capnography

AEMT

1. Establish IV

Paramedic

1. Interpret capnography waveform
2. Consider racemic Epinephrine 0.5 mg diluted in 3 cc 0.9% NS

Bellevue Fire Department

STRIDOR

Revised: September 2013
Protocol: 7-12

Job Classes: EMT, AEMT, Paramedic
Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Assess for possible airway obstruction
4. Provide supplemental oxygen, goal is to maintain SpO2 >94%
5. If inadequate ventilations, support with BVM and supplemental oxygen
6. Administer Albuterol 2.5 mg NEB if wheezes are present
    a. NEB may have to be inlined with BVM using conversion kit
7. Apply cardiac monitor
8. Consider capnography

AEMT

1. Establish IV

Paramedic

1. If indicated, removed FBAO under direct laryngoscopy
2. Interpret capnography waveform
3. Consider racemic Epinephrine 0.5 mg diluted in 3 cc 0.9% NS

Bellevue Fire Department

ACUTE ALLERGIC REACTION

Revised: September 2013 Protocol: 7-13	Job Classes: EMT, AEMT, Paramedic Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Rapid physical exam to find possible source, remove source from patient
4. Provide supplemental oxygen, goal is to maintain SpO2 >94%
5. If inadequate ventilations, support with BVM and supplemental oxygen
6. Administer Albuterol 2.5 mg NEB if wheezes are present
    a. NEB may have to be inlined with BVM using conversion kit
7. Consider Pediatric Epi-Pen. Guidelines for administration are as follows:
    a. Only able to speak in one-two word sentences
    b. Low/Falling SpO2 saturations even with supplemental oxygen
    c. Diminished to absent lung sounds
    d. Retractions
    e. Pale or cyanotic skin
8. Apply cardiac monitor

AEMT

1. Establish IV
2. Consider Epinephrine 1:1,000 0.3 mg IM, may be repeated every 5 minutes

Paramedic

1. Consider Epinephrine 1:10,000 0.15 mg IV/IO, may repeat every 5 minutes as needed
2. Consider Diphenhydramine 1 mg/kg IV/IO
    a. Quick Trach should be available as a backup device

Bellevue Fire Department

UPPER AIRWAY OBSTRUCTION

Revised: September 2013
Protocol: 7-14

Job Classes: EMT, AEMT, Paramedic
Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Assess lung sounds
3. Assess for possible airway obstruction, encourage coughing
4. Provide supplemental oxygen, goal is to maintain SpO2 >94%
5. If inadequate ventilations, support with BVM and supplemental oxygen
6. Apply cardiac monitor
7. Consider capnography

AEMT

1. Establish IV access

Paramedic

1. If indicated, removed FBAO under direct laryngoscopy
2. Interpret capnography waveform

Bellevue Fire Department

PEDIATRIC SEIZURES

Revised: January 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 7-15	Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. Open and maintain airway, do not place fingers or OPA in the mouth
3. Provide supplemental oxygen, goal is to maintain SpO2 >94%
4. Check Blood Glucose Level
5. Remove objects that may strike the patient, if actively seizing
6. Prepare IV supplies

AEMT

1. Establish IV, consider use of coban for combative patients
2. Administer Narcan 0.1 mg/kg IV/IN if indicated for respiratory depression secondary to opiate OD
3. Consider Glucagon 0.1 mg/kg

Paramedic

1. For recurrent seizures, administer Ativan 0.1 mg/kg IV/IO/IN/PR to a max of 4 mg
2. Administer Dextrose if BGL is less than 70 mg/dL:
    a. Patient is 8 years or older - Administer D50W (1 gm/kg) IV/IO up to 25 grams
    b. Patient is 6 months to 8 years - Administer **Dextrose 25%** 2-3 ml/kg IV/IO
    c. Patient is 1 month to 6 months - Administer **Dextrose 10%** 5 ml/kg IV/IO
    d. Patient is less than 1 month - Administer **Dextrose 10%** 3 ml/kg IVO/IO

Bellevue Fire Department

ALTERED MENTAL STATUS

Revised: September 2013
Protocol: 7-16

Job Classes: EMT, AEMT, Paramedic
Category: PEDIATRICS

EMT

1. ABC, SAMPLE, OPQRST Assessment
2. If unresponsive, check breathing and pulse
3. If adequately breathing, apply oxygen and monitor SpO2 (goal is to maintain SpO2 >94%)
4. If inadequately breathing, support respirations with a BVM and supplemental oxygen
5. Check Blood Glucose level
    a. If BGL is less than 70 or signs of relative hypoglycemia are present, administer oral glucose if the patient is able to follow directions and has an intact gag reflex
6. Prepare IV Supplies
7. Rule out other causes of altered mental status (stroke, carbon monoxide, drugs/alcohol, etc)
8. Apply cardiac monitor

AEMT

1. Establish IV with 1 L of 0.9% Saline
2. If unable to start IV, consider Glucagon 1 mg IM
3. If patient shows signs of respiratory depression secondary to opiate overdose, consider Narcan 0.1 mg/kg IV/IN. May repeat dose increments to 2 mg.

Paramedic

1. Interpret cardiac rhythm and follow appropriate protocol if applicable
2. Administer Dextrose if BGL is less than 70 mg/dL:
    a. Patient is 8 years or older - Administer D50W (1 gm/kg) IV/IO up to 25 grams
    b. Patient is 6 months to 8 years - Administer **Dextrose 25%** 2-3 ml/kg IV/IO
    c. Patient is 1 month to 6 months - Administer **Dextrose 10%** 5 ml/kg IV/IO
    d. Patient is less than 1 month - Administer **Dextrose 10%** 3 ml/kg IVO/IO

Bellevue Fire Department

SPECIAL POPULATION GENERAL DEFINITIONS

Revised: September 2013	Job Classes: EMT, AEMT, Paramedic
Protocol: 8-01	Category: SPECIAL

This section of protocols will serve as general guidelines that should be flowed when dealing with a patient that requires specific interventions to either be performed, or not be performed. These patients usually have a specific condition that requires them to have a certain device or medication that maintains a stable medical condition.

Bellevue Fire Department

LEFT VENTRICULAR ASSIST DEVICE

Revised: September 2013 Protocol: 8-02	Job Classes: EMT, AEMT, Paramedic Category: SPECIAL

Purpose:

A ventricular assist device (VAD) is an implantable mechanical pump that helps pump blood from the lower chambers of the heart to the rest of the body. VADs are used in people who have weakened hearts or heart failure. Although VADs can be placed in the left, right or both ventricles of your heart, they are most frequently used in the left ventricle. When placed in the left ventricle they are called left ventricular assist devices (LVADs). The patient may have a VAD implanted while you wait for a heart transplant or for your heart to become strong enough to effectively pump blood on its own.

Assessment Considerations:

- These patients will not have a palpable pulse
- An auscultated or palpated blood pressure will not be able to be obtained
- The patient's cardiac waveform will not be altered by the LVAD
- To ensure the LVAD is working, the internal device can be auscultated by placing the stethoscope over the 5th intercostal space, mid clavicular line. You will hear a humming noise.

Treatment Considerations:

All cardiac dysrhythmias should be using normal drug and/or electrical therapies

If the patient is code-99:

- No manual or mechanical compressions should be performed
- Defibrillation and drugs may be administered for cardiac dysrhythmias
- Advanced airway should be placed and verified

Bellevue Fire Department

MEDICATION PUMPS

Revised: September 2013	Job Classes: Paramedic
Protocol: 8-03	Category: SPECIAL

Purpose:

An infusion pump infuses fluids, medication or nutrients into a patient's circulatory system. It is generally used intravenously, although subcutaneous, arterial and epidural infusions are occasionally used. Infusion pumps can administer fluids in ways that would be impractically expensive or unreliable if performed manually. For example, they can administer as little as 0.1 mL per hour injections (too small for a drip), injections every minute, injections with repeated boluses requested by the patient, up to maximum number per hour (e.g. in patient-controlled analgesia), or fluids whose volumes vary by the time of day.

Assessment Considerations:

- These pumps may be placed to infuse subcutaneously, IV, or even through a central line.

Treatment Considerations:

- The pump should never be tampered with in terms of changing infusions rates or turning off the pump.
- If drugs need to be administered, a peripheral IV/IO should be established as a medication route, do NOT use the pump route.

Bellevue Fire Department

MECHANICAL VENTILATORS

Revised: September 2013	Job Classes: Paramedic
Protocol: 8-04	Category: SPECIAL

Purpose:

In its simplest form, a modern positive pressure ventilator consists of a compressible air reservoir or turbine, air and oxygen supplies, a set of valves and tubes, and a disposable or reusable "patient circuit". The air reservoir is pneumatically compressed several times a minute to deliver room-air, or in most cases, an air/oxygen mixture to the patient. If a turbine is used, the turbine pushes air through the ventilator, with a flow valve adjusting pressure to meet patient-specific parameters. When overpressure is released, the patient will exhale passively due to the lungs' elasticity, the exhaled air being released usually through a one-way valve within the patient circuit called the patient manifold. The oxygen content of the inspired gas can be set from 21 percent (ambient air) to 100 percent (pure oxygen). Pressure and flow characteristics can be set mechanically or electronically. Ventilators may also be equipped with monitoring and alarm systems for patient-related parameters (e.g. pressure, volume, and flow) and ventilator function (e.g. air leakage, power failure, mechanical failure), backup batteries, oxygen tanks, and remote control.

Some patients require home ventilation systems. This device must accompany the patient during transport. This protocol will serve as a guideline for commonly encountered problems.

- Settings are typically set for that specific patient, these should not be changed unless directed by the patient or physician familiar with the device.
- Have a BVM nearby and ready for use at ALL times
- If the vent begins to alarm and the problem cannot be found and solved within 10 seconds, switch to BVM immediately and continue to assess for the problem.
- If the patient goes into cardiac arrest, the vent needs to be removed and BVM ventilations started.
- Cardiac, SpO2, and Capnography monitoring are required on all vent patients, with serial vital signs occurring every 10 minutes.

Alarms:

If an alarm sounds, always start at the patient and work your way back to the ventilator. Check for the following:

1. Apneic patient
2. Dislodged/misplaced tube
3. Obstruction
4. Disconnected tubes/circuits
5. Oxygen supply
6. Pressure alarms
7. Pneumothorax
8. Equipment/Power Failure

Bellevue Fire Department

CINCINNATI STROKE SCALE

Revised: September 2013
Protocol: App - A

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

Facial Droop (have patient show teeth or smile):

- Normal – both sides of face move equally well
- Abnormal – one side of face does not move as well as the other side

Arm Drift (patient closes eyes and holds both arms out):

- Normal – both arms move the same or both arms do not move at all (other findings, such as pronator grip, may be helpful)
- Abnormal – one arm does not move or one arm drifts down compared with the other

Speech (have the patient say "you can't teach an old dog new tricks"):

- Normal – patient uses correct words with no slurring
- Abnormal – patient slurs words, uses inappropriate words, or is unable to speak

Bellevue Fire Department

DRUG INFUSIONS

Revised: September 2013
Protocol: App - B

Job Classes: Paramedic
Category: APPENDIX

Amiodarone Infusion set up:

1. Primary IV (1000 cc NS) established.
2. Inject 150 mg of Amiodarone into a 100 cc bag of D5W (use med port on IV bag)
3. Gently shake 100 cc bag to "mix" in the medication.
4. Spike to 100 cc bag of D5W with the minidrip (60 gtts) IV tubing and attach the dial-a-flow
5. On primary IV line, wipe off medication port with alcohol, connect the secondary bag to the primary line by inserting Luer Lock into this port.
6. Open up secondary IV roller clamp to the wide open position, fluid will run wide open in the minidrip fluid chamber. Monitor infusion so it runs over 10 minutes, ***dial a flow should be set to 300***.
7. Shut down primary IV.
8. Label secondary IV bag with medication information.

Magnesium Sulfate (50%) Infusion set up:

1. Primary IV (1000 cc NS) established.
2. Inject 5gms of Magnesium Sulfate (50%) into a 50 cc bag of D5W (use medication port on IV bag).
3. Gently shake 50cc bag to "mix" in the medication.
4. Spike to 50cc bag of D5W with the minidrip (60 gtts) IV tubing and attach the dial a flow.
5. On primary IV line, wipe off medication port with alcohol, connect the secondary bag to the primary line by inserting Luer Lock into this port.
6. Open up secondary IV roller clamp to the wide open position, fluid will run wide open in the minidrip fluid chamber. Monitor infusion so it lasts at least 5 minutes, ***dial a flow should be set to 300***.
7. Shut down primary IV.
8. Label secondary IV bag with medication information.

Dopamine Infusion set up:

1. Primary IV (1000 cc NS) established.
2. Mix Dopamine 400mg into a 250cc D5W bag.
3. Spike the 250cc bag of D5W with the minidrip (60 gtts) IV tubing.
4. On primary IV line, wipe off medication port with alcohol, connect the secondary bag to the primary line by inserting Luer Lock into this port.
5. Open up secondary IV roller clamp to start flowing fluid. Monitor infusion so it delivers the desired dose based on drug calculations:

		30 kg	40 kg	50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
Dopamine	**5 mcg/kg**	6	7	9	11	13	15	17	19	21	23
Dopamine	**10 mcg/kg**	11	15	19	23	26	30	34	37	41	45

6. Shut down primary IV.
7. Label secondary IV bag with medication information.

Bellevue Fire Department

DRUG INFUSIONS

Revised: September 2013	Job Classes: Paramedic
Protocol: App - B	Category: APPENDIX

Epinephrine Infusion (Bradycardia) set up:

1. Primary IV (1000 cc NS) established.
2. Inject 2mg of ***Epinephrine 1:10,000*** into a 250 cc bag of D5W (use medication port on IV bag) to make 8 mcg / cc concentration.
3. Gently shake 250cc bag to "mix" in the medication.
4. Spike the 250cc bag of D5W with the minidrip (60 gtts) IV tubing.
5. On primary IV line, wipe off medication port with alcohol, connect the secondary bag to the primary line by inserting Luer Lock into this port.
6. Open up secondary IV roller clamp to start flowing fluid. Monitor infusion so it delivers the desired dose based on drug calculations:

15 gtts = 2 mcg/min, 30 gtts = 4 mcg/min, 45 gtts = 6 mcg/min, 60 gtts = 8 mcg/min

7. Shut down primary IV.
8. Label secondary IV bag with medication information.

Epinephrine Infusion (Return of Spontaneous Circulation) set up:

1. Primary IV (1000 cc NS) established.
2. Inject 15mg of ***Epinephrine 1:1,000*** into a 250 cc bag of D5W (use medication port on IV bag) to make 60 mcg / cc (1 mcg/drop) concentration.
3. Gently shake 250cc bag to "mix" in the medication.
4. Spike the 250cc bag of D5W with the minidrip (60 gtts) IV tubing.
5. On primary IV line, wipe off medication port with alcohol, connect the secondary bag to the primary line by inserting Luer Lock into this port.
6. Open up secondary IV roller clamp to start flowing fluid. Monitor infusion so it delivers the desired dose based on drug calculations:

		30 kg	40 kg	50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
Epinephrine (ROSC)	**0.1 mcg/kg**	3	4	5	6	7	8	9	10	11	12
Epinephrine (ROSC)	**0.5 mcg/kg**	15	20	25	30	35	40	45	50	55	60

7. Shut down primary IV.
8. Label secondary IV bag with medication information.

Bellevue Fire Department

QUICK TRACH

Revised: September 2013
Protocol: App - C

Job Classes: Paramedic
Category: APPENDIX

Determining Proper Size of Quicktrach Device

Pediatrics:

2mm - Small Device

For airways that would require 4.0-6.5mm ET Tube

Weight/Age Ranges - from the Broselow Tape

Broselow Kit Color	KG	Pounds	ET Tube Size	QuickTrach Size
Purple	10-11	22-24.25	4.0	SMALL/2MM
Yellow	12-14	26.5-30.8	4.5	SMALL/2MM
White	15-18	33-39.7	5.0	SMALL/2MM
Blue	19-22	41.9-48.5	5.5	SMALL/2MM
Orange	24-28	52.9-61.7	6.0	SMALL/2MM
Green	30-36	66.1-79.4	6.5	SMALL/2MM or LARGE 4MM

Above Green Kit or 6.5 ETT - use LARGE 4mm QuickTrach Device

Adults:

4mm - Large Device

Indications:

- Respiratory arrest or near respiratory arrest in whom an airway cannot be secured with an endotracheal tube
- Situations in which standard endotracheal intubations cannot be done:

  Excessive oropharyngeal hemorrhage

  Massive traumatic or congenital deformities

  Complete airway obstruction precluding ET tube placement
- Cervical spine fractures with respiratory compromise in patients who cannot be endotracheally intubated.

Bellevue Fire Department

QUICK TRACH

Revised: September 2013	Job Classes: Paramedic
Protocol: App - C	Category: APPENDIX

This is a procedure of last resort and may not provide adequate oxygenation for an extended period of time.

Instructions for Use - Quicktrach

1. Open the package, remove the device and familiarize yourself with its contents.

2. Place the patient in the supine position. Assure stable positioning of the neck region (place a pillow or piece of clothing under the patient's shoulders) and hyperextend the neck.

Secure the larynx laterally between the thumb and forefinger. Find the cricothyroid ligament (in the midline between the thyroid cartilage and the cricoid cartilage). This is the puncture site.

3. Firmly hold the device and puncture the cricothyroid ligament at a 90 degree angle. Note: Because of the sharp tip and conical shape of the needle, an incision of the skin with a scalpel is not necessary.

The opening of the trachea is achieved by dilating through the skin. This reduces the risk of bleeding as only the smallest necessary opening is made.

4. After puncturing the cricothyroid ligament, check the entry of the needle into the trachea by aspirating air through the syringe. If air is present, the needle is within the trachea - should no aspiration of air be possible because of an extremely thick neck, it is possible to remove the stopper and carefully insert the needle further until entrance into the trachea is made.

Now, change the angle of insertion to 60 degrees and advance the device forward into the trachea to the level of the stopper. The stopper reduces the risk of inserting the needle too deeply and causing damage to the rear wall of the trachea.

5. Remove the stopper. After the stopper is removed, be careful not to advance the device further with the needle still attached. **Should no aspiration of air be possible in Step Three because of an extremely thick neck, it is possible to remove the stopper and carefully insert the needle further until entrance into the trachea is made. Once this is verified, continue as in Step 6.

6. Hold the needle and syringe firmly and slide only the plastic cannula along the needle into the trachea until the flange rests on the neck. Carefully remove the needle and syringe. Next, secure the cannula with the neck tape, apply the connecting tube to the 15mm connection, and connect the other end to the resuscitation bag or ventilation circuit.

Bellevue Fire Department

COMMON ANTIDEPRESSANTS

Revised: September 2013
Protocol: App - D

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

Common Antidepressants:

Adapin	doxepin	Ludiomil	protriptyline	Triptil
Amid	Elavil	maprotilline	Remeron	Vivactil
Amitril	Emitrip	Meravil	SK-Pramine	Wellbutrin
amitriptyline	Endep	mirtazapine	Sinequan	Zonalon
amoxapine	Enovil	Norfranil	Surmontil	Zyban
Anafranil	Etrafon	Norpramin	Tipramine	
Antipress	Imavate	nortriptyline	Tofranil	
Asendin	Impril	Novopramine	trazodone	
Aventyl	Impipramine	Pamelor	Triadapin	
bupropion	Janimine	perphenazine	Trialodine	
clomipramine	Levate	Perphenyline	Triavil	
desipramine	Limibitrol	Pertofrane	trimipramine	

Bellevue Fire Department

CPAP

Revised: September 2013 Protocol: App - E	Job Classes: EMT, AEMT, Paramedic Category: APPENDIX

Indications

- Chronic Obstructive Pulmonary Disease (COPD) unrelieved with inhaled bronchodilators
- Congestive Heart Failure (CHF) with moderate-severe respiratory distress or florid pulmonary edema
- Respiratory Distress with evidence of hypoxia evidenced by 3 or more of the following
  - Increased work of breathing (Use of accessory muscles or retractions)
  - Respiratory rate >24
  - Initial or subsequent pulse oximetry <93%
  - Abnormal (Rales, ronchi, or wheezes) or diminished lung sounds
  - Pallor or cyanosis
- Obese patients that do not tolerate lying in a supine position due to orthopnea

Contraindications

- Active nausea/vomiting or upper GI bleeding
- Patient inability/unwilling to comply with treatment
- Altered mental status (GCS <11) with inability to protect the airway
- Unconscious
- Facial deformity or trauma
- Pneumothorax
- Apnea
- Hypotension <90 mmHg
- Penetrating thoracic trauma
- Recent neurologic, facial, or gastric surgery
- Pediatric (<16 years of age) population

Procedure

1. Complete initial and focused (If possible) assessment of the patient and obtain a full set of baseline vital signs.
2. Apply SpO_2, $EtCO_2$, and cardiac monitors.
3. Instruct patient on CPAP therapy.
4. Ensure adequate Oxygen supply (>1000 psi) prior to starting CPAP therapy then turn on oxygen source.
5. Coach patient's respirations prior to and after application of CPAP mask.
6. Apply face mask over nose and face, assess for air leaks, and secure the mask.
7. Adjust the PEEP pressure to 5 cm H_20 and titrate to effect not to exceed 15 cm H_2O
8. Continue adjunctive treatment under appropriate protocol and medications (i.e. COPD, CHF protocols).
9. Reassess and document the patient's level of consciousness, airway, work of breathing, and hemodynamic status every 5 minutes.
10. Document initial, ongoing, and final SpO2, EtCO2, CPAP settings.
11. Notify the receiving facility that CPAP therapy is being used with current settings to facilitate transfer and continued treatment upon arrival.

12. If the patients mental status decreases or the ventilatory rate and effort decrease with inadequate respirations, remove CPAP and begin BVM ventilations and prepare for possible advanced airway placement.
13. CPAP therapy should not be discontinued in the prehospital environment unless:
    a. The patient's condition deteriorates necessitating advanced airway placement
    b. The patient will not tolerate therapy (Consider hypoxia and try to coach the patient)
    c. Direct medical control order to discontinue therapy

Caution

Pressures >15 cm H_2O increases the risk of barotrauma

Use caution as patients may become hypotensive secondary to increased intrathoracic pressures with CPAP

	Bellevue Fire Department **EZ-IO**	
	Revised: September 2013 Protocol: App - F	Job Classes: Paramedic Category: APPENDIX

Vidacare™ EZ-IO™

Inclusion Criteria:

This treatment protocol is intended to be used as a supplement to the standard treatment protocols used Bellevue Fire Department. The Vidacare EZ-IO may be attempted on the critically ill or injured patient over 3 kilograms in weight when IV fluids and/or medications must be immediately administered to prevent the patient's death.

INDICATIONS:
Adult Patients - EZ-IO Adult needle (40 kilograms (88 lbs) or more)
1. An unstable patient or a code-99 where IV fluids or medications are necessary and a peripheral IV cannot be easily or quickly established.
Pediatric Patients - EZ-IO Pediatric needle (between 3 and 39 kilograms (6..6 - 87 lbs)
1. An unstable patient or a code-99 where IV fluids or medications are necessary and a peripheral IV cannot be easily or quickly established.

CONTRAINDICATIONS:
• Fracture of the tibia or femur (consider alternate tibia)
• Previous orthopedic procedures (IO within 24 hours, knee replacement) (consider alternate tibia)
• Pre-existing medical condition involving that extremity
• Infection at insertion site (consider alternate tibia or humeral head)
• Inability to locate landmarks (significant edema)
• Excessive tissue at insertion site (obesity) • Infants less than 3 kilograms (6.6 lbs) in weight
CONSIDERATIONS:
1. Flow rates:
    a. Due to the anatomy of the intraosseous space, flow rates will be slower than those achieved with IV catheters.
    b. Initially infuse a rapid bolus of 10mL of normal saline.
    c. Use a pressure bag to ensure continuous infusion.
2. Pain:
    a. Insertion of the Vidacare EZ-IO in conscious patients causes mild to moderate discomfort but is usually no more painful than a large bore IV.
    b. IO infusion can cause severe discomfort for conscious patients.
    c. Prior to IO flush on alert, adult patients, SLOWLY administer 40mg (or 2mLs) 2% IV Lidocaine through the EZ-IO hub.

EQUIPMENT:
• VidacareTM EZ-IO driver
• Alcohol or iodine swab
• 10ml syringe
• Pressure bag
• liter bag of normal saline
• VidacareTM EZ-IOTM needle set, appropriate for age
• IV or extension set
• Tape or gauze
• 2% IV lidocaine

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EZ-IO

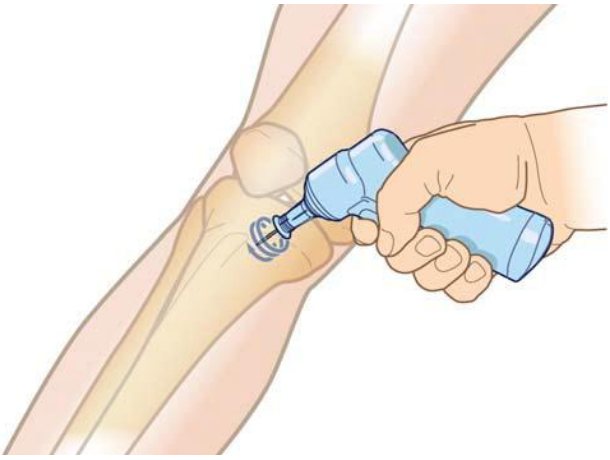
Revised: September 2013 Protocol: App - F	Job Classes: Paramedic Category: APPENDIX

PROCEDURE:
Advise the patient (if conscious) or the parents of the EMERGENT NEED for this procedure and obtain consent.

1. Wear approved body substance isolation.
2. Locate and cleanse insertion site using aseptic technique. The following locations may be considered for EZ-IO placement:
    1. The medial aspect of the proximal tibia, just distal to the tibial tuberosity.
    2. The humeral head 2-3 cm below the acromioclavicular joint
3. Prepare the Vidacare EZ-IO driver and needle set.
4. Stabilize extremity and confirm landmarks.
5. Insert EZ-IO needle set (gentle pressure, 90 degree angle to the plane of insertion).
6. Remove EZ-IO driver from needle set while stabilizing catheter hub.
7. Remove stylet from needle set and dispose in sharps container.
8. Confirm placement via aspiration of bone marrow.
9. If the adult patient is conscious, administer 40mg (2mLs) 2% Lidocaine IO and wait 15 seconds.
10. Bolus the EZ-IO catheter with 10ml of normal saline.
11. Connect the IV tubing.
12. Place a pressure bag on solution being infused and adjust the flow rate, as desired.
13. Monitor EZ-IO site and patient condition.
14. Document use of EZ-IO in the patient care report.

Proximal Humerus Landmark

Proximal Tibia Landmark (90° to plane of bone)



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AUTO-PULSE REVIVANT

Revised: September 2013
Protocol: App - G

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

INDICATIONS

The AutoPulse should be used for all adult patients in non-traumatic cardiac arrest, where CPR would other wise be used. In case of mechanical malfunction of the AutoPulse the EMS responder will resort back to manual CPR for patient care.

CONTRAINDICATIONS

- Traumatic cardiac arrest
- Pediatric patients

Protocol for Management

- B.S.I.
- Cut clothing down the back and remove from the front side of patient, where possible.
- Place the AutoPulse on a flexible stretcher, aligning on the top half of the BOT
- Log roll the patient, placing the AutoPulse behind the patient's back.
- Log roll patient on to AutoPulse.
- Place defibrillation pads on patient's chest, if not already in place .
- Turn the AutoPulse on (switch at top middle of board above patients head).
- Connect Chest/Life Band across the chest of patient, and the yellow shoulder straps to the board.
- Lift the chest band straight up to ensure it is free of twists.
- Push the **"Green"** button once to start sizing cycle.
- Push the "**Green**" button a second time to start compression cycle.
- Place a towel under the patients head to help stabilize in place.
- Ventilate patient during compression pause until advanced airway is in place, then switch to continuous compressions.
- Replace battery at **30 minutes** or when low battery warning is heard.
- Upon **ROSC** or to check for pulse press **Orange** button to pause compressions.

DOCUMENTATION

- Document the use of AutoPulse on report.

COMPLICATIONS

- Care should be used when moving patients with a large abdomen (shifting of excess flesh may cause the life band to move or break)

- If disruption or malfunction of life band occurs **Revert Back to Manual CPR**

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APGAR SCORE

Revised: September 2013
Protocol: App - H

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

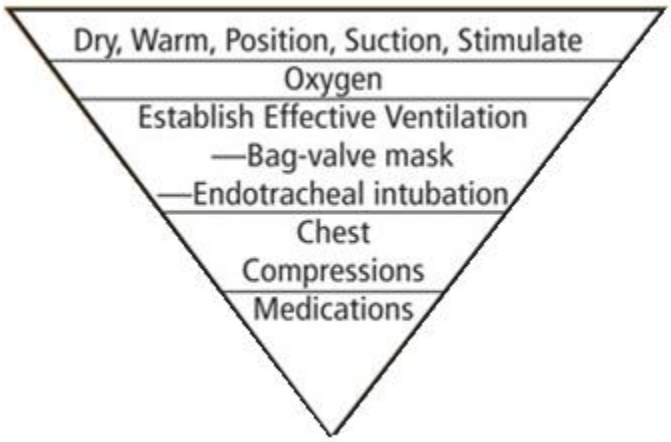
The APGAR score is to be obtained at 1 and 5 minutes after birth. Below is a chart describing the scoring criteria. A score of less than 3 requires immediate intervention.

Scoring Criteria

	0	1	2
Appearance	Blue/pale all over	Pink core, blue extremities (acrocyanosis)	No cyanosis
Pulse	Absent	Less than 100	Greater than 100
Grimace	No response to stimulation	Weak cry when stimulated	Strong cry
Activity	None	Some flexion	Flexed arms and legs
Respirations	Absent	Weak, agonal	Strong, adequate

If the infant has a score of 3 or below, use the following chart to begin resuscitative measures.

Inverted Pyramid of Neonatal Resuscitation



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DRUG DATA SHEETS

Revised: September 2013
Protocol: App - I

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

ADENOSINE

Generic Name:	**Adenosine**
Trade Name:	Adenocard®
Chemical Class:	Endogenous nucleoside
Therapeutic Class:	Antiarrhythmic
Actions:	Adenocard (adenosine injection) slows conduction time through the A-V node, can interrupt the reentry pathways through the A-V node, and can restore normal sinus rhythm in patients with paroxysmal supraventricular tachycardia (PSVT), including PSVT associated with Wolff-Parkinson-White Syndrome. Adenocard is antagonized competitively by methylxanthines such as caffeine and theophylline, and potentiated by blockers of nucleoside transport such as dipyridamole. Adenocard is not blocked by atropine.
Pharmacokinetics:	Cleared from plasma in less than 30 seconds.
Indications:	Unstable narrow QRS tachycardia refractory to vagal maneuvers. NOTE: Unstable signs include altered mental status, ongoing chest pain, hypotension, and other signs of shock.
Contraindications:	1. Second- or third- degree heart block. 2. Atrial Fibrillation or Atrial Flutter with Rapid Ventricular Response 3. Sick sinus syndrome. 4. Hypersensitivity to the drug. 5. Stimulant use (Bath Salts)
Precautions:	Adenosine typically causes dysrhythmias at the time of cardioversion. These generally last a few seconds or less and may include PVC's, PAC's, sinus bradycardia , sinus tachycardia and various degrees of AV block. In extreme cases, transient systole may occur for a short period of time.
Side Effects:	1. CNS: dizziness, headache 2. CV: dysrhythmia outlined under precautions, chest pain, facial flushing, palpitations, diaphoresis 3. GI: Nausea 4. RESP: chest pressure, dyspnea
Administration:	*Adult:* Administer 6mg IV over 1 to 3 seconds followed by a fluid bolus. If not effective after 2 minutes, give 12 mg IV over 1 to 3 seconds followed by a fluid bolus. *Pediatric:* Administer 0.1 mg IV over 1 to 3 seconds (maximum first dose mg) followed by a fluid bolus. If not effective after 2 minutes, give 0.2 mg/kg IV (maximum second dose 12 mg) followed by a fluid bolus.
Supply:	Vials containing either 6mg in 2ml's, or 12mg in 4ml's.
Notes:	1. Administer Adenosine rapidly over 1-3 seconds, into the medication port closest to the patient, through a large vein followed by a 10ml saline flush and elevation of the arm. 2. Higher doses than usual may be needed for patients receiving Theophylline preparations or consuming large quantities of caffeine. 3. Dipyridamole (Persatine) can potentiate the effects of Adenosine. The dosage of Adenosine may need to be reduced in patients recieving dipyridamole.

ALBUTEROL

Generic Name:	**Albuterol**
Trade Name:	Airet®, Proventil®, Repetabs®, Respirol®, Ventolin®, Volmax®, Combivent®
Chemical Class:	Sympathomimetic amine; β^2-adrenergic agonist
Therapeutic Class:	Aniasthmatic; bronchodilator
Actions:	Albuterol is a selective β^2-adrenergic agonist with a minimal number of side effects. It causes prompt bronchodilation and has a duration of action of approximately 5 hours.
Pharmacokinetics:	Onset 5 to 15 minutes. Peak 1 to 1½ hours. Duration 4 to 6 hours.
Indications:	1. Bronchial asthma. 2. Reversible bronchospasm associated with chronic bronchitis and emphysema. 3. Anaphylactic respiratory distress.
Contraindications:	1. Hypertension (Systolic greater than 180). 2. Tachycardia (HR greater than 140 adult, HR greater than 180 child). 3. Severe cardiac disease. 4. Hypersensitivity to the drug.
Precautions:	1. Hyperthyroidism. 2. Diabetes Mellitus. 3. Convulsive disorders.
Side Effects:	1. CNS: dizziness, headache, stimulation, tremors 2. CV: chest pain, dysrhythmias, hypertension, palpitations, tachycardia 3. GI: nausea, vomiting
Administration:	Using a small volume nebulizer, adjust the oxygen flow meter to 6 to 10LPM to produce a steady, visible mist. *Adult:* Administer 2.5 mg (3mL of 0.083% solution) with a mouthpiece or facemask. Repeat every 10 minutes, up to 3 treatments, if needed. *Pediatric:* Administer 2.5 mg (3mL of 0.083% solution) with a mouthpiece or blow-by. Repeat every 10 minutes, up to 3 treatments, if needed.
Supply:	Unit dose vials containing 2.5 mg in 3 mL.
Notes:	1. The possibility of developing unpleasant side effects increases when albuterol is administered with other sympathetic agonists. 2. β-blockers may blunt the pharmacological effects of albuterol. 3. Albuterol is also supplied in metered dose inhalers (MDI) that deliver 90 mcg per inhalation. Be sure to obtain a complete medication history detailing administration times and frequency of use of home inhalation therapy. Overdoses of inhalers cause

AMIODARONE

Generic Name:	**Amiodarone**
Trade Name:	Cordarone®, Pacerone®
Chemical Class:	Iodinated benzofuran derivative
Therapeutic Class:	Antiarrhythmic
Actions:	Amiodarone possesses electrophysiologic characteristics of all four Vaughan Williams classes. Like class I drugs, amiodarone blocks sodium channels at rapid pacing frequencies, and like class II drugs, it exerts a noncompetitive antisympathetic action. One of its main effects, with prolonged administration, is to lengthen the cardiac action potential, a class III effect. The negative chronotropic effect of amiodarone in nodal tissues is similar to the effect of class IV drugs. In addition to blocking sodium channels, amiodarone blocks myocardial potassium channels, which contributes to slowing of conduction and prolongation of refractoriness. The antisympathetic action and the block of calcium and potassium channels are responsible for the negative dromotropic effects on the sinus node and for the slowing of conduction and prolongation of refractoriness in the atrioventricular (AV) node. Its vasodilatory action can decrease cardiac workload and consequently myocardial oxygen consumption.
Pharmacokinetics:	t½ = 20 to 47 days
Indications:	1. Shock refractory ventricular fibrillation and pulseless ventricular tachycardia. 2. Ventricular tachycardia. 3. Wide-complex tachycardia of unknown type.
Contraindications:	1. Cardiogenic shock. 2. Marked sinus bradycardia. 3. Second- or third- degree heart block. 4. Hypersensitivity to the drug.
Precautions:	1. May worsen existing or precipitate new dysrhymias, including torsades de pointes and VF. 2. Use with beta-blocking agents could increase risk of hypotension and bradycardia. Amiodarone inhibits atrioventricular conduction and decreases myocardial contractility, increasing the risk of AV block with verapamil or diltiazem or of hypotension wi 3. Use with caution in pregnancy and with nursing mothers.
Side Effects:	1. CNS: dizziness, headache. 2. CV: bradycardia, cardiac conduction abnormaities, CHF, dysrhythmias, hypotension, SA node dysfunction, sinus arrest. 3. GI: dyspnea, pulmonary inflammation.
Administration:	Adult: 1. VF and Pulseless VT: Administer 300 mg IV/IO. Give additional 150 mg IV/IO in 3 to 5 minutes for refractory or recurrent VF/VT. a. For ROSC prior to the administration of amiodarone, administer a rapid infusion of 150 mg over 10 minutes. 2. VT with pulse: Administer a rapid infusion of 150 mg over 10 minutes. Mix at 100 mL of NS and infuse at 100 gtts/min (10 drop set). Repeat as needed for refractory VT with a pulse. 3. When administering a rapid infusion of amiodarone (150 mg over 10 minutes) and the infusion is completed prior to the patient's arrival at the hospital, administer a maintenance infusion of amiodarone Pediatric: 1. VF and pulseless VT: Administer 5 mg/kg IV/IO. (No subsequent doses). 2. VT with pulse: Administer an infusion of 5 mg/kg over 20 minutes. Mix in 100 mL of NS and infuse at 50 gtts/min (10 drop set).
Supply:	Vial 150 mg/3 mL

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DRUG DATA SHEETS

Revised: September 2013
Protocol: App - I

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

ASPIRIN

Generic Name:	**Aspirin**
Trade Name:	Bayer®, St. Joseph®, etc.
Chemical Class:	Salicylate derivative
Therapeutic Class:	Antiarrhythmic
Actions:	Aspirin blocks the formation of the substance thromboxane A^2, which causes platelets to aggregate and arteries to constrict. This results in an overall reduction in mortality associated with myocardial infarction.
Pharmacokinetics:	Onset 15 to 30 minutes. Peak 1 to 2 hours. Duration 4 to 6 hours. t½ = 3 hours at low doses.
Indications:	New chest pain suggestive of an acute myocardial infarction.
Contraindications:	1. Hypersensitivity to the drug. NSAIDS, and tartrazine (FDC yellow dye #5). 2. Bleeding disorders inclding GI hemorrhage and hemophelia. 3. Hemorrhagic states.
Precautions:	Children or teenagers with flu-like symptoms (may be associated with Reye's syndrome)
Side Effects:	1. GI: GI bleeding, heartburn, nausea 2. HEME: prolonged bleeding time
Interactions:	When administered together, aspirin and other anti-inflammatory agents may cause an increased incidence of side effects and increased blood levels of both drugs. Administration of aspirin with antacids may reduce the blood levels of the drug by decreasin
Administration:	Administer four (4) 81 mg chewable tablets (324 mg total dose) PO as soon as possible after the onset of chest pain.
Supply:	81 mg low dose chewable tablets
Notes:	

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ATIVAN

Generic Name:	**Ativan**
Trade Name:	Lorazepam
Chemical Class:	Benzodiazepene
Therapeutic Class:	Anti-anxitey, anti-convulsant, sedative
Actions:	Lorazepam interacts with the γ-aminobutyric acid (GABA)-benzodiazepine receptor complex, which is widespread in the brain of humans as well as other species. This interaction is presumed to be responsible for lorazepam's mechanism of action. Lorazepam 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. The pharmacodynamic consequences of benzodiazepine agonist actions include antianxiety effects, sedation, and reduction of seizure activity. The intensity of action is directly related to the degree of benzodiazepine receptor occupancy
Pharmacokinetics:	Rapidly absorbed, half life of about 14 hours.
Indications:	Relief of acute anxiety, Premedication for sedation Status epilepsus
Contraindications:	1. Hypersensitivity to the drug. 2. SBP below 90 mmHg
Precautions:	Monitor for respiratory depression
Side Effects:	1. CNS: sedation, 2. CV: hypotension 3. GI: Nausea 4. RESP: depression
Administration:	*Adult:* Administer 0.05 mg/kg (max 4mg) slow IV *Pediatric:* Administer 0.05-0.1 mg/k (max 4mg) slow IV
Supply:	Carpuject containing 2mg in 1cc.
Notes:	Ativan must be refrigerated at 2-8C

Weight in kg

		10	20	30	40	50	60	70	80	90	100	110	120
Max Dose (mg)	0.05	0.5	1	1.5	2	2.5	3	3.5	4	4	4	4	4

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Revised: September 2013
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Category: APPENDIX

ATROPINE

Generic Name:	**Atropine Sulfate**
Trade Name:	Atropine Care®, Atropen Autoinjector®, Atropisol®, Arosulf-1®
Chemical Class:	Belladonna alkaloid
Therapeutic Class:	Anticholinergic
Actions:	Atropine is commonly classified as an anticholinergic or antiparasympathetic (parasympatholytic) drug. More precisely, however, it is termed an antimuscarinic agent since it antagonizes the muscarine-like actions of acetylcholine and other choline esters. Atropine inhibits the muscarinic actions of acetylcholine on structures innervated by postganglionic cholinergic nerves, and on smooth muscles which respond to endogenous acetylcholine but are not so innervated. As with other antimuscarinic agents, the major action of atropine is a competitive or surmountable antagonism which can be overcome by increasing the concentration of acetylcholine at receptor sites of the effector organ (e.g., by using anticholinesterase agents which inhibit the enzymatic destruction of acetylcholine). The receptors antagonized by atropine are the peripheral structures that are stimulated or inhibited by muscarine (i.e., exocrine glands and smooth and cardiac muscle). Responses to postganglionic cholinergic nerve stimulation also may be inhibited by atropine but this occurs less readily than with responses to injected (exogenous) choline esters.
Pharmacokinetics:	Peak 2 to 4 minutes. Duration 4 to 6 hours.
Indications:	1. **Adult**: Hemodynamically significant bradycardia (HR less than 60, QRS less than 0.12 seconds: a. Acute altered mental status, ongoing chest pain, hypotension or other signs of shock. b. Bradycardia associated with "escape" ventricular ectopy (ie., PVC's attributed to underlying slow heart rate) 2. **Pediatric**: Hemodynamically significant bradycardia (HR less than 60, neonate less than 80) due to increased vagal tone or pimary AV block. 3. Severe organophosphate poisonings (insecticides).
Contraindications:	Hypersensitivity to the drug. Hypertension
Precautions:	1. Use atropine cautiously in the presence of acute coronary ischemia or myocardial infarction; increased heart rate may worsen ischemia or increase the zone of infarction 2. Avoid relying on atropine in type II second-degree or third-degree AV block or in patients with third-degree AV block with a new wide-QRS complex and poor perfusion.
Side Effects:	1. CNS: drowsiness, confusion 2. CV: agina, PVC's, tachycardia 3. EENT: blurred vision, dilated pupils 4. GI: dry mouth
Interactions:	None known
Administration:	1. Adult-Bradycardia: Administer 0.5 mg IV. May repeat every 5 minutes to a total dose of 3 mg if needed. (total of 0.04 mg/kg maximum) 2. Pediatric-Bradycardia: Administer 0.02 mg/kg IV/IO. May repeat once in 3 to 5 minutes if needed. (Minimum dose = 0.1 mg, maximum dose = 1 mg)
Supply:	Prefill containing 1 mg in 10 mL.
Notes:	

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Revised: September 2013
Protocol: App - I

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

CALCIUM GLUCONATE

Generic Name:	**Calcium Gluconate**
Trade Name:	Calcium Gluconate 10% Injection USP
Chemical Class:	Salt
Therapeutic Class:	Electrolyte
Actions:	Calcium is the fifth most abundant element in the body and is essential for maintenance of the functional integrity of nervous, muscular and skeletal systems and cell membrane and capillary permeability. It is also an important activator in many enzymatic reactions and is essential to a number of physiologic processes including transmission of nerve impulses; contraction of cardiac, smooth and skeletal muscles; renal function; respiration and blood coagulation. Calcium also plays regulatory roles in the release and storage of neurotransmitters and hormones, in the uptake and binding of amino acids, and in cyanocobalamin (vitamin B12) absorption and gastrin secretion.
Pharmacokinetics:	Cleared from plasma in about 1 hour.
Indications:	Cardiac arrest with suspected hyperkalemia.
	Dialysis patients with suspected hyperkalemia (peaked T-waves on the cardiac monitor)
Contraindications:	1. Ventricular Fibrillation 2. Normal or elevated blood calcium levels
Precautions:	To avoid undesirable reactions that may follow rapid intravenous administration of calcium gluconate, the drug should be given slowly, e.g., approximately 1.5 mL over a period of one minute. When injected intravenously, calcium gluconate should be injected through a small needle into a large vein in order to avoid too rapid increase in serum calcium and extravasation of calcium solution into the surrounding tissue with resultant necrosis. Rapid injection of calcium gluconate may cause vasodilation decreased blood pressure, bradycardia, cardiac arrhythmias, syncope and cardiac arrest. Because of the danger involved in simultaneous use of calcium salts and drugs of the digitalis group, a digitalized patient should not receive an intravenous injection of a calcium compound unless indications are clearly defined.
Side Effects:	1. CNS: tingling, hot flashes 2. CV: vasodilation, hypotension, bradycardia, arrhythmias, syncope, cardiac arrest 3. GI: None 4. RESP: None
Administration:	*Adult:* Administer 1000 mg over 5 minutes, no more than 200 mg per minute.
Supply:	Vial containing 1000 mg in 10 mLs.
Notes:	Calcium Gluconate is not compatible with Sodium Bicarbonate, the IV line must be thoroughly flushed before administration. Infiltration will result in necrosis, ensure patent IV line prior to administration.

CYANOKIT

Generic Name:	CYANOKIT
Trade Name:	Hydroxocobalamin
Chemical Class:	Cyanide Antagonist
Therapeutic Class:	Antidote
Actions:	Cyanide is an extremely toxic poison. In the absence of rapid and adequate treatment, exposure to a high dose of cyanide can result in death within minutes due to the inhibition of cytochrome oxidase resulting in arrest of cellular respiration. Specifically, cyanide binds rapidly with cytochrome a3, a component of the cytochrome c oxidase complex in mitochondria. Inhibition of cytochrome a3 prevents the cell from using oxygen and forces anaerobic metabolism, resulting in lactate production, cellular hypoxia and metabolic acidosis. The action of Cyanokit in the treatment of cyanide poisoning is based on its ability to bind cyanide ions. Each hydroxocobalamin molecule can bind one cyanide ion by substituting it for the hydroxo ligand linked to the trivalent cobalt ion, to form cyanocobalamin, which is then excreted in the urine.
Pharmacokinetics:	Following intravenous administration of hydroxocobalamin significant binding to plasma proteins and low molecular weight physiological compounds occurs, forming various cobalamin-(III) complexes by replacing the hydroxo ligand. The predominant mean half-life of free and total cobalamins-(III) was found to be approximately 26 to 31 hours at both the 5 g and 10 g dose level.
Indications:	Cyanide poisoning may result from inhalation, ingestion, or dermal exposure to various cyanide-containing compounds, including smoke from closed-space fires. Sources of cyanide poisoning include hydrogen cyanide and its salts, cyanogenic plants, aliphatic nitriles, and prolonged exposure to sodium nitroprusside. The presence and extent of cyanide poisoning are often initially unknown. There is no widely available, rapid, confirmatory cyanide blood test. Treatment decisions must be made on the basis of clinical history and signs and symptoms of cyanide intoxication. If clinical suspicion of cyanide poisoning is high, Cyanokit should be administered without delay.
Contraindications:	None in the emergency setting
Precautions:	A red skin rash may develop.
Side Effects:	1. Transient hypertension 2. Transient tachycardia
Interactions:	This drug is not compatible with many drugs carried by EMS, this drug needs to be administered in its own independent IV line.
Administration:	The starting dose of hydroxocobalamin for adults is 5 g administered as an intravenous infusion over 15 minutes (approximately 15 mL/min). Administration of the entire vial constitutes a complete starting dose. Depending upon the severity of the poisoning and the clinical response, a second dose of 5 g may be administered by intravenous infusion for a total dose of 10 g. The rate of infusion for the second dose may range from 15 minutes (for patients in extremis) to two hours, as clinically indicated.
Supply:	Cyanokit (hydroxocobalamin for injection) 5 g for intravenous infusion is a cyanide antidote package which contains one colorless 250 mL glass vial, containing 5 g dark red lyophilized hydroxocobalamin, pH adjusted with hydrochloric acid, one transfer spike, one intravenous administration set, one quick use reference guide and one package insert.
Notes:	1. The 5 g vial of hydroxocobalamin for injection is to be reconstituted with 200 mL of 0.9% NaCl, to give a dark red injectable solution (25 mg/mL). Diluent is not included in the Cyanokit. 2. The pH of the reconstituted product ranges from 3.5 to 6.0.

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DRUG DATA SHEETS

Revised: September 2013
Protocol: App - I

Job Classes: EMT, AEMT, Paramedic
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DEXTROSE

Generic Name:	**Dextrose**
Trade Name:	Glucose®, Glutose®, Insta-Glucose®
Chemical Class:	Carbohydrate
Therapeutic Class:	Nutrient, caloric
Actions:	Dextrose supplies supplemental glucose in cases of hypoglycemia and restores blood sugar levels to normal (70 to 110 mg/dL).
Pharmacokinetics:	N/A
Indications:	1. Hypoglycemia (less than 70 mg/dL). 2. Oral hypoglycemia agent overdose.
Contraindications:	No contraindications for a patient with suspected hypoglycemia.
Precautions:	1. Use with caution in patients with increased intracranial pressure because the dextrose load may worsen cerebral edema. 2. Localized venous irritation may occur when smaller veins are used. 3. Infiltration may result in tissue necrosis. 4. Dextrose is only administered via the IV or IO route.
Side Effects:	Tissue necrosis and phlebitis at the injection site.
Interactions:	None
Administration:	Adult: Administer dextrose 50% 12.5-25 g slow IV. May be repeated once. Pediatric: 0.5-1 g/kg/dose slow IV. May be repeated once.
Supply:	Prefilled syringe containing 25 g in 50 mL (0.5 g/mL/kg) (50% solution)
Notes:	1. Establish a free flowing IV of normal saline in a large vein. Aspirate blood before and during administration of dextrose to ensure IV patency. 2. Hypoglycemic states require immediate intervention. Prolonged hypoglycemia can result in permanent brain damage.

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Revised: September 2013
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DIAZEPAM

Generic Name:	**Diazepam**
Trade Name:	Valium®
Chemical Class:	Benzodiazepine
DEA Class	Schedule IV
Therapeutic Class:	Anesthesia adjunct, anticonvulsant, sedative/hypnotic, skeletal muscle relaxant
Actions:	Diazepam causes central nervous sytem depression via facilitation with inhibitory GABA[1] at benzodiazepine receptor sites.
Pharmacokinetics:	IV: Onset 1 to 3 minutes. Duration 15 minutes. t½ = 20 to 50 hours. RECTALLY: Onset 5 to 15 minutes. Peak 1.5 hours.
Indications:	1. Seizures not caused by hypoglycemia. 2. Severe agitation, tachycardia, or hallucinations caused by alcohol withdrawl. 3. Sedation for cardioversion and transcutaneous pacing.
Contraindications:	1. Hypersensitivity to the drug. 2. Altered mental status not related to seizures. 3. Respiratory depression.
Precautions:	1. Use cautiously with the elderly, the debilitated, hepatic disease, and renal disease. 2. The benefits of giving diazepam to the pregnant patient for seizures outweigh the associated risks.
Side Effects:	1. CNS: dizziness, drowsiness, headache 2. CV: hypotension 3. EENT: blurred vision 4. GI: Nausea, vomiting 5. RESP: respiratory depression
Interactions:	1. Diazepam is incompatible with many medications. Whenever diazepam is given intravenously in conjunction with other drugs, the IV line should be adequately flushed. 2. The effects of diazepam can be potentiated by CNS depressants and alcohol.
Administration:	Adult: Adminiister 5 to 10 mg slow IVP. Repeat dose in 5 minutes if seizure persists. Pediatric-IV: Administer 0.2 mg/kg up to 5 mg slow IV push, titrated to effect. Repeat dose in 5 minutes if seizure persists. Pediatric-Rectally: Give 0.5 mg/kg up to 20 mg.
Supply:	Carpuject containing 10 mg in 2 mL (5mg/mL)
Notes:	

DIPHENHYDRAMINE

Generic Name:	**Diphenhydramine hydrochloride**
Trade Name:	Benadryl®
Chemical Class:	Ethanolamine derivative
Therapeutic Class:	Antihistamine, antianaphylactic (adjunct)
Actions:	Diphenhydramine is an antihistamine with anticholinergic (drying) and sedative side effects. Diphenhydramine decreases the allergic response by blocking histamine at H^1 receptor sites.
Pharmacokinetics:	Onset within 15 minutes. Peak in 2-4 hours. Duration 4-8 hours.
Indications:	1. Allergic reactions. 2. Anaphylaxis, as an adjunct to epinephrine.
Contraindications:	1. Bronchial asthma. 2. Nursing mothers. 3. Children less than 7 kg. (approximately 6 Months old) 4. Hypersensistivity to the drug or other antihistamines.
Precautions:	Use with caution in patients with a history of hyperthyroidism, cardiovascular disease, and hypertension.
Side Effects:	1. CNS: dizziness, drowsiness, sedation, sleepiness 2. CV: headache, palpitations 3. GI: dryness of mouth, nose and throat 4. RESP: thickening of bronchial secretions, wheezing
Interactions:	1. Effects of diphenhydramine are potentiated with alcohol or other CNS depressants (hypnotics, sedatives, tranquilizers, etc). 2. MAO inhibitors prolong and intensify the anticholinergic (drying) effects of antihistamines.
Administration:	Adult: Administer 50 mg slow IVP. Pediatric: Administer 1 mg/kg up to 50 mg slow IVP.
Supply:	Single use vials containing 50mg in 1 mL
Notes:	

DOPAMINE

Generic Name:	**Dopamine Hydrochloride**
Trade Name:	Inotropin®
Chemical Class:	Catecholamine
Therapeutic Class:	Vasopressor, α- and β- adrenergic sympathomimetic
Actions:	Dopamine is a natural catecholamine formed by the decarboxylation of 3,4-dihydroxyphenylalanine (DOPA). It is a precursor to norepinephrine in noradrenergic nerves and is also a neurotransmitter in certain areas of the central nervous system, especially in the nigrostriatal tract, and in a few peripheral sympathetic nerves. Dopamine produces positive chronotropic and inotropic effects on the myocardium, resulting in increased heart rate and cardiac contractility. This is accomplished directly by exerting an agonist action on beta-adrenoceptors and indirectly by causing release of norepinephrine from storage sites in sympathetic nerve endings.
Pharmacokinetics:	Onset 5 minutes. Duration less than 10 minutes. t½ = 2 minutes.
Indications:	1. Hemodynamically significant bradycardia that does not respond to atropine. 2. Hemodynamically significant hypotension associated with cardiogenic shock.
Contraindications:	1. Hypovolemic shock; volume replacement must be accomplished prior to using dopamine. 2. Pheochromocytoma (tumor of the adrenal gland). 3. Dopamine should not be administered in the presence of tachydysrhythmias or ventricular fibrillation.
Precautions:	Dopamine increases heart rate and can induce or worsen supraventricular and ventricular dysrhythmias.
Side Effects:	1. CNS: headache, nervousness 2. CV: anginal pain, ectopic beats, hypertension, palpitations, tachycardia, vasoconstriction 3. GI: nausea, vomiting 4. RESP: dyspnea
Administration:	IV infusion at 2 to 20 mcg/kg/min. Titrate to SBP = 90 to 100 mm/Hg. Piggyback the dopamine infusion into an already established IV infusion
Supply:	Prefilled bags 400 mg in 250cc
Notes:	1. Infuse using a 60 drop administration set. Use formula below to calculate the drip rate. 2. Tissue sloughing may occur with extravasation. Antecubital veins are preferable sites. Monitor closely for leakage and/or infiltration.

DOPAMINE INFUSION FORMULA

Infusion Rate = Dose x weight in kg x 60 gtts/mL ⁄ Concentration of drug in 1 mL

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DUODOTE

Generic Name:	**DuoDote Auto-Injector**
Trade Name:	Atropine and Pralidoxime Chloride Injection
Chemical Class:	Muscarinic Antagonist
Therapeutic Class:	Anticholinergic/Cholinesteraste reactivator
Actions:	**Atropine**. Atropine competitively blocks the effects of acetylcholine, including excess acetylcholine due to organophosphorous poisoning, at muscarinic cholinergic receptors on smooth muscle, cardiac muscle, and secretory gland cells and in peripheral autonomic ganglia and the central nervous system. **Pralidoxime**. Pralidoxime reactivates acetylcholinesterase which has been inactivated by phosphorylation due to an organophosphorous nerve agent or insecticide. However, pralidoxime does not reactivate acetylcholinesterase inactivated by all organophosphorous nerve agents (e.g., soman). Reactivated acetylcholinesterase hydrolyzes excess acetylcholine resulting from organophosphorous poisoning to help restore impaired cholinergic neural function. Reactivation is clinically mportant because only a small proportion of active acetylcholinesterase is needed to maintain vital functions. Pralidoxime cannot reactivate phosphorylated acetylcholinesterases that have undergone a further chemical reaction known as "aging".
Pharmacokinetics:	**Atropine** reduces secretions in the mouth and respiratory passages, relieves airway constriction, and may reduce centrally-mediated respiratory paralysis. In severe organophosphorous poisoning, a fully atropinized patient may develop or continue to have respiratory failure and may require artificial respiration and suctioning of airway secretions. Atropine may cause thickening of secretions. Atropine-induced parasympathetic inhibition may be preceded by a transient phase of stimulation, especially on the heart where small doses first slow the rate before characteristic tachycardia develops due to paralysis of vagal control. **Pralidoxime** chloride has its most critical effect in relieving respiratory muscle paralysis. Because pralidoxime is less effective in relieving depression of the respiratory center, atropine is always required concomitantly to block the effect of accumulated acetylcholine at this site. Pralidoxime has a minor role in relieving muscarinic signs and symptoms, such as salivation or bronchospasm.
Indications:	1. Organophosphorus Nerve Agents (Sarin, Tabun, VX) 2. Organophosphorus Insecticides (Malathion, Parathion)
Contraindications:	1. In the presecne of a life threatening condition, there are no contraindications.
Precautions:	1. Cardiac Disease
Side Effects:	1. CNS: dizziness, headache, stimulation 2. CV: tachycardia 3. GI: nausea, vomitting, urinary retention
Administration:	Adult: Mild Symptoms - SLUDGEM - 1 DuoDote AutoInjector Adult: Moderate Symptoms - Excessive SLUDGEM - 2 DuoDote AutoIjnectors Adult: Severe Symptoms - Excessive SLUDGEM and Seizures - 3 DuoDote AutoInjectors
Supply:	AutoInjector containing 2.1mg/0.7cc Atropine and 600mg/2cc Pralidoxime Chloride
Notes:	

DUONEB

Generic Name:	Ipratropium bromide and albuterol sulfate
Trade Name:	DuoNeb®
Chemical Class:	Ipratropium bromide-anticholinergic; Albuterol-β^2-adrenergic agonist
Therapeutic Class:	Beta-adrenergic agonist
Actions:	The prime action of β-adrenergic drugs is to stimulate adenyl cyclase, the enzyme that catalyzes the formation of cyclic-3',5'-adenosine monophosphate (cAMP) from adenosine triphosphate (ATP). The cAMP thus formed mediates the cellular responses. In vitro studies and in vivo pharmacologic studies have demonstrated that albuterol has a preferential effect on β2-adrenergic receptors compared with isoproterenol. While it is recognized that β2-adrenergic receptors are the predominant receptors in bronchial smooth muscle, recent data indicated that 10% to 50% of the β-receptors in the human heart may be β2-receptors. The precise function of these receptors, however, is not yet established. Albuterol has been shown in most controlled clinical trials to have more effect on the respiratory tract, in the form of bronchial smooth muscle relaxation, than isoproterenol at comparable doses while producing fewer cardiovascular effects. Controlled clinical studies and other clinical experience have shown that inhaled albuterol, like other β-adrenergic agonist drugs, can produce a significant cardiovascular effect in some patients.
Pharmacokinetics:	Onset 2-5 minutes, peak 1 hour, duration 5 hours.
Indications:	Bronchospasm in COPD patients.
Contraindications:	1. Hypersensisitivity to the drug, or to atropine 2. Chronic Coronary Insufficiency 3. Hypertension 4. Myocardial ischemia
Precautions:	Use with caution in patients with narrow-angle glaucoma, hepatic, or renal insufficiency.
Side Effects:	1. CNS: drowsiness 2. CV: palpitations, chest pain 3. GI: nausea, diarrhea
Administration:	Empty one 3 mL (containing Albuterol 3.0 mg and Ipratropium bromide 0.5 mg) into nebulizer.
Supply:	3 mL vials
Notes:	

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EPINEPHRINE 1:1,000

Generic Name:	**Epinephrine 1:1000**
Trade Name:	Adrenalin®
Chemical Class:	Catecholamine
Therapeutic Class:	Bronchodilator, vasopressor
Actions:	Adrenalin (epinephrine) is a sympathomimetic drug. It activates an adrenergic receptive mechanism on effector cells and imitates all actions of the sympathetic nervous system except those on the arteries of the face and sweat glands. Epinephrine acts on both alpha and beta receptors and is the most potent alpha receptor activator.
Pharmacokinetics:	SQ: onset 3 to 5 minutes.
Indications:	1. Anaphylaxis 2. Croup
Contraindications:	Epinephrine should be avoided in the following patients unless signs and symptoms are severe: 1. Hypertension (SBP greater than 180). 2. Tachycardia (HR greater than 140 adult, HR greater than 180 child). 3. Cardiovasular disease. 4. Elderly (age greater than 55 years). 5. Angle closure glaucoma.
Precautions:	1. Hyperthyroidism. 2. Diabetes mellitus.
Side Effects:	1. CNS: anxiety, dizziness, restlessness, tremulousness, headache 2. CV: anginal pain, dysrhythmias, hypertension, palpitations 3. GI: nausea, vomiting 4. SKIN: pallor
Interactions:	Cyclic antidepressants and antihistamines may potentiate the effects of epinephrine.
Administration:	Adult: Administer 0.5 mg SQ Pediatric: Administer 0.01 mg/kg up to 0.3 mg SQ (peds anaphylaxis) Pediatric Croup: Mix 0.5 mg in 3cc Saline Jet and Nebulize
Supply:	Multi-dose vial containing 30 mg in 30 mL (1mg/mL)
Notes:	

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EPINEPHRINE 1:10,000

Generic Name:	**Epinephrine 1:10,000**
Trade Name:	Adrenalin®
Chemical Class:	Catecholamine
Therapeutic Class:	Bronchodilator, vasopressor
Actions:	Adrenalin (epinephrine) is a sympathomimetic drug. It activates an adrenergic receptive mechanism on effector cells and imitates all actions of the sympathetic nervous system except those on the arteries of the face and sweat glands. Epinephrine acts on both alpha and beta receptors and is the most potent alpha receptor activator.
Pharmacokinetics:	IV: 90 seconds.
Indications:	1. Cardiac arrest 2. Pediatric bradycardia unresponsive to ventilation. 3. Neonatal bradycardia unresponsive to ventilation and chest compressions.
Contraindications:	No contraindications when used for indicated conditions.
Precautions:	No precautions when used for indicated conditions.
Side Effects:	1. CNS: anxiety, dizziness, restlessness, tremulousness, headache 2. CV: anginal pain, dysrhythmias, hypertension, palpitations 3. GI: nausea, vomiting 4. SKIN: pallor
Administration:	Adult: Administer 1 mg (10 mL) IV/IO. Repeat every 3-5 minutes if needed. Pediatric: Administer 0.01 mg/kg (0.1 mL/kg) IV/IO. Repeat every 3-5 minutes if needed.
Supply:	Prefilled syringe containing 1 mg in 10mL(0.1 mg/mL).
Notes:	

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ETOMIDATE

Generic Name:	**Etomidate**
Trade Name:	Amidate
Chemical Class:	Hypnotic
Therapeutic Class:	Anesthetic
Actions:	Etomidate is a short-acting hypnotic, which appears to have gamma-aminobutyric acid (GABA)–like effects. Unlike the barbiturates, etomidate reduces subcortical inhibition at the onset of hypnosis while inducing neocortical sleep. Studies in animals suggest that a part of the action of etomidate consists of a depression of the activity and reactivity of the brain stem reticular formation. Duration of action is 3 to 5 minutes.
Pharmacokinetics:	Half life of about 75 minutes, clears plasma in about 30 minutes
Indications:	Sedation agent for RSI
Contraindications:	1. Sensitivity to the drug.
Precautions:	Etomidate can block the adrenal gland's production of cortisol and other steroid hormones, possibly resulting in temporary adrenal gland failure. This may cause abnormal salt and water balance, lowered blood pressure, and, ultimately, shock. Postoperative or critically ill patients may require adrenocorticoid supplementation
Side Effects:	1. CNS: CNS depression
	2. CV: tachycardia, bradycardia, hypotension
	3. GI: Nausea , Vomitting
	4. RESP: Respiratory Depression
Administration:	*Adult:* Administer 0.3 mg/kg IVP prior to administration of paralyzing agent. *Pediatric:* Administer 0.3 mg/kg IVP prior to administration of paralyzing agent.
Supply:	Vial containing 20 mg in 10 cc.
Notes:	

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FENTANYL

Generic Name:	**Fentanyl Citrate**
Trade Name:	Sublimaze®
DEA Class:	Schedule II
Chemical Class	A synthetic, lipophilic phenylpiperidine opioid agonist
Therapeutic Class:	Opiod analgesic
Actions:	Fentanyl is a potent narcotic analgesic with a rapid onset and short duration of action. At a dose of 100 micrograms, the analgesic activity of fentanyl is approximately equivalent to 10 mg of morphine. Fentanyl differs from morphine by its short duration and less hemodynamic effects.
Pharmacokinetics:	Onset almost immediate, peak 3-5 minutes, duration 30-60 minutes.
Indications:	Pain management.
Contraindications:	1. Patients on MAO inhibitors 2. Myasthenia gravis. 3. Hypersensistivity to the drug.
Precautions:	1. Respiratory depression. 2. Patients with bradycardia 3. Rapid administration may cause chest wall rigidity.
Side Effects:	1. CNS: dizziness, drowsiness, headache, sedation 2. CV: hypotension, bradycardia 3. EENT: blurred vision, constricted pupils 4. GI: abdominal cramps, constipation, nausea, vomiting 5. RESP: respiratory depression
Interactions:	Narcotic pain relievers, MAO inhibitors, tranquilizers, sleeping pills.
Administration:	Adult: 50-100 mcg IV push Pediatric: 0.15 mcg/kg IV push
Supply:	Prefilled carpuject containing 100 mcg in 2 mL
Notes:	Zofran may be used prior to administration of Fentanyl to avoid nausea and vomiting caused by the drug.

GLUCAGON

Generic Name:	**Glucagon**
Trade Name:	GlucaGen®
Chemical Class:	Polypeptide hormone
Therapeutic Class:	Antihypoglycemic
Actions:	Glucagon induces liver glycogen breakdown, releasing glucose from the liver. Blood glucose concentration rises within 10 minutes of injection and maximal concentrations are attained at approximately a half hour after injection (see Figure). Hepatic stores of glycogen are necessary for glucagon to produce an antihypoglycemic effect.
Pharmacokinetics:	Onset within 15 minutes. t½ = 3 to 6 minutes.
Indications:	When unable to obtain IV access and give dextrose, and 1. Hypoglycemia (less than 60 mg/dL) based on rapid glucose determination or clinical judgement. 2. Oral hypoglycemic agent overdose.
Contraindications:	Hypersensitivity to the drug.
Precautions:	Glucagon is only effective if there sufficient stores of glycogen within the liver. In an emergent situation, intravenous dextrose is the agent of choice.
Side Effects:	1. CNS: dizziness, headache 2. CV: hypotension 3. GI: nausea, vomiting
Administration:	Adult: Administer 1 mg IM. Pediatric: Administer 0.5 mg IM for children less than 20 kg.
Supply:	Vial containing 1 mg glucagen powder for reconstitution with supplied vial containing 1 mL sterile water.
Notes:	

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LIDOCAINE

Generic Name:	**Lidocaine**
Trade Name:	Xylocaine®
Chemical Class	Amino amide local anesthetic
Therapeutic Class:	Local anesthetic
Actions:	Lidocaine is classified as a Class Ib antiarrhythmic agent, blocking the sodium channel of the cardiac action potential, which decreases automaticity by reducing the slope of phase 0 of depolarization with little effect on the PR interval or QRS complex. Additionally, Lidocaine HCl stabilizes the neuronal membrane by inhibiting the ionic fluxes required for the initiation and conduction of impulses thereby effecting local anesthetic action.
Pharmacokinetics:	Onset dependent on various factors such as site of administration and the presence or absence of a vasoconstrictor agent. t½ = 1.5 - 2 hours
Indications:	1. EZ-IO insertion on a conscious patient.
Contraindications:	1. Hypersensitivity to the drug. 2. Stokes-Adams syndrome. 3. Wolf-Parkinson-White syndrome 4. AV block.
Precautions:	
Side Effects:	1. CNS: confusion, drowsiness, unconsciousness, temens, convulsions 2. CV: hypotension, bradycardia, CV collapse, cardiac arrest 3. EENT: Tinnitis, diplopia
Interactions:	1. Weigh the risk/benefit of combining the use of lidocaine and amiodarone as the combination may increase lidocaine levels and the risk of adverse effects, including QT prolongation and cardiac dysrhythmias. 2. Administration with succinylcholine may prolong neuromuscular blockade.
Administration:	**IO Insertion** Bolus 40 mg after IO insertion in conscious patient to aid in pain control prior to fluid infusion.
Supply:	Prefilled syringe containing 100 mg/5mL of 2% solution
Notes:	

MAGNESIUM SULFATE

Generic Name:	**Magnesium Sulfate**
Trade Name:	N/A
Chemical Class	Divalent cation
Therapeutic Class:	Antiarrhythmic, electrolyte
Actions:	Magnesium sulfate reduces striated muscle contractions and blocks peripheral neuromuscular transmission by reducing acetylcholine release at the myocardial junction.
Pharmacokinetics:	Onset immediate. Duration 3-4 hours.
Indications:	1. Torsades des Pointes. 2. Eclampsia
Contraindications:	Heart block
Precautions:	1. Magnesium sulfate should be administered slowly to minimize side effects. 2. Any patient receiving IV magnesium sulfate should have continious cardiac monitoring and frequent monitoring of vital signs. 3. Magnesium sulfate should be given very cautiously in the presence of serious impairment of renal function since it is excreted almost entirely by the kidneys.
Side Effects:	1. CNS: coma, depressed reflexes, lethargy, weakness 2. CV: heart block, hypotension, bradycardia 3. RESP: respiratory depression 4. SKIN: flushing, sweating
Interactions:	Magnesium sulfate can cause cardiac conduction abnormalities if administered in conjunction with digitalis.
Administration:	Adult: Torsades-Administer 2 g IV over 1 to 2 minutes Eclampsia-Administer 5 g IV over at least 5 minutes. Repeat dose at half (2.5g) in 5 minutes if seizure persists.
Supply:	Vial of 5 g in 10 mL
Notes:	

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MORPHINE

Generic Name:	**Morphine Sulfate**
Trade Name:	Astramorph®, Duramorph®, MC Contin®, Roxanol®
DEA Class:	Schedule II
Chemical Class	Natural Opium alkaloid, phenanthrene derivative
Therapeutic Class:	Narcotic Analgesic
Actions:	Morphine produces a wide spectrum of pharmacologic effects including analgesia, dysphoria, euphoria, somnolence, respiratory depression, diminished gastrointestinal motility and physical dependence. Opiate analgesia involves at least three anatomical areas of the central nervous system: the periaqueductal-periventricular gray matter, the ventromedial medulla and the spinal cord. A systematically administered opiate may produce analgesia by acting at any, all or some combination of these distinct regions. Morphine interacts predominantly with the μ-receptor. The μ-binding sites of opioids are very discretely distributed in the human brain, with high densities of sites found in the posterior amygdala, hypothalamus, thalamus, nucleus caudatus, putamen and certain cortical areas. They are also found on the terminal axons of primary afferents within laminae I and II (substantia gelatinosa) of the spinal cord and in the spinal nucleus of the trigeminal nerve.
Pharmacokinetics:	Peak analgesia 20 minutes. t½ = 2.5 to 3 hours.
Indications:	1. Pain associated with acute myocardial infarction unresponsive to nitrates. 2. Acute pain, such as an isolated extremity trauma. 3. Pain from burns (not involving respiratory tract).
Contraindications:	1. Hypotension (SBP less than 90 mm/Hg). 2. Respiratory depression. 3. Hypersensitivity to the drug.
Precautions:	Morphine causes severe respiratory distress in high doses, especially in patients who already have some form of respiratory impairment. Naloxone should be readilty available whenever morphine is administered.
Side Effects:	1. CNS: dizziness, drowsiness, headache, sedation 2. CV: hypotension, 3. EENT: blurred vision, constricted pupils, diplopia 4. GI: abdominal cramps, constipation, nausea, vomiting 5. RESP: respiratory depression
Interactions:	The CNS depression associated with morphine can be enhanced when administered with antihistamines, antiemetics, sedatives, hypnotics, barbiturates, and alcohol.
Administration:	Adult: Administer 2-4 mg slow IV over 1 minute Pediatric: Administer 0.1 mg/kg (max single dose 4 mg) slow IV
Supply:	Prefilled carpuject containing 2 mg in 1 mL
Notes:	Zofran may be used prior to administration of Fentanyl to avoid nausea and vomiting caused by the drug.

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NALOXONE

Generic Name:	**Naloxone**
Trade Name:	Narcan®
Chemical Class	Thebaine derivative
Therapeutic Class:	Narcotic antagonist
Actions:	NARCAN is an essentially pure opioid antagonist, i.e., it does not possess the "agonistic" or morphine-like properties characteristic of other opioid antagonists. When administered in usual doses and in the absence of opioids or agonistic effects of other opioid antagonists, it exhibits essentially no pharmacologic activity. NARCAN has not been shown to produce tolerance or cause physical or psychological dependence. In the presence of physical dependence on opioids, NARCAN will produce withdrawal symptoms. However, in the presence of opioid dependence, opiate withdrawal symptoms may appear within minutes of NARCAN administration and subside in about 2 hours. The severity and duration of the withdrawal syndrome are related to the dose of NARCAN and to the degree and type of opioid dependence. While the mechanism of action of NARCAN is not fully understood, in vitro evidence suggests that NARCAN antagonizes opioid effects by competing for the μ, κ and σ opiate receptor sites in the CNS, with the greatest affinity for the μ receptor.
Pharmacokinetics:	Onset 2 minutes. t½ = 64 minutes
Indications:	Respiratory depression caused by narcotics.
Contraindications:	Hypersensitivity to the drug.
Precautions:	Naloxone should be administered cautiously to patients who are known or suspected to be dependent on narcotics. Abrupt and complete reversal by naxolone can cause withdrawl-type effects.
Side Effects:	1. CNS: seizures, tremulousness 2. CV: hypertension, hypotension, tachycardia, ventricular dysrhythmia 3. GI: nausea, vomiting
Interactions:	Naloxone may cause narcotic withdrawl in the narcotic-dependent patient. In cases of suspected narcotic dependence, only administer enough drug to reverse respiratory depression.
Administration:	Administer 0.4 mg IVP initially, repeat if necessary in 0.4 mg increments, titrating to effect.
Supply:	Prefill containing 2 mg in 2 mL.
Notes:	

NITROGLYCERIN

Generic Name:	**Nitroglycerin**
Trade Name:	Nitrolingual®, Nitroquick®, Nitrostat®, Nitro-bid®, Nitrol®
Chemical Class:	Nitrate
Therapeutic Class:	Antianginal, vasodilator
Actions:	The principal pharmacological action of nitroglycerin is relaxation of vascular smooth muscle. Although venous effects predominate, nitroglycerin produces, in a dose-related manner, dilation of both arterial and venous beds. Dilation of postcapillary vessels, including large veins, promotes peripheral pooling of blood, decreases venous return to the heart, and reduces left ventricular end-diastolic pressure (preload). Nitroglycerin also produces arteriolar relaxation, thereby reducing peripheral vascular resistance and arterial pressure (afterload), and dilates large epicardial coronary arteries; however, the extent to which this latter effect contributes to the relief of exertional angina is unclear. Therapeutic doses of nitroglycerin may reduce systolic, diastolic, and mean arterial blood pressure. Effective coronary perfusion pressure is usually maintained, but can be compromised if blood pressure falls excessively, or increased heart rate decreases diastolic filling time.
Pharmacokinetics:	SL: Onset 1 to 3 minutes. Peak 5 minutes. Duration at least 25 minutes. t½ = 2 to 3 minutes.
Indications:	1. Chest pain suspected to be cardiac in origin. 2. Cardiogenic pulmonary edema. 3. Hypertensive crisis.
Contraindications:	1. Hypotension (SBP less than 90). 2. Increased intercranial pressure (i.e., CVA, head injury). 3. Hypersensitivity to the drug. 4. Patient has taken anti-impotence agent within 48 hours prior to nitroglycerin administration.
Precautions:	1. Administer nitrates with extreme caution to patients with suspected inferior wall MI with possible right ventricular (RV) involvement because these patients require adequate RV preload. 2. Patients taking the drug routinely may develop a tolerance and require and increased dose. 3. Postural syncope sometimes occurs following the administration of nitroglycerin; it should be anticipated and the patient kept supine when possible. 4. Careful clinical or hemodynamic monitoring must be used because of the possibility of hypotension and tachycardia.
Side Effects:	CNS: dizziness, headache, weakness CV: dysrhythmias, palpitations, postural hypotension, tachycardia GI: nausea, vomiting SKIN: diaphoresis
Interactions:	1. Severe hypotension is possible when administered to patients who have recently ingested alcohol. 2. Orthostatic hypotension is possible when used in conjunction with β-adrenergic antagonists. 3. Administration of nitroglycerin is contraindicated in patients who are using anti-impotence agents such as sildenafil (Viagara®, Cialis®, Levitra®) since these agents have been shown to potentiate the hypotensive effects of organic nitrates.
Administration:	Nitroglycerin may be administered prior to establishing an IV if the SBP is greater than 100 mmHg. Chest Pain-Administer 0.4 mg SL. Repeat every 5 minutes until pain is resolved or hypotension develops. Pulmonary Edema: Administer 0.4 mg SL every 5-10 minutes as needed if SBP is greater than 90 mmHg.
Supply:	Bottle containing 0.4 mg tablets.

ONDANSETRON

Generic Name:	**Ondansetron**
Trade Name:	Zofran®
Chemical Class:	5-HT3 Receptor blocker
Therapeutic Class:	Antiemetic
Actions:	Zofran selectively blocks serotonin receptor (those that produce nausea/vomiting).
Pharmacokinetics:	Onset 10 minutes, peak 15-30 minutes, t½=4 hours
Indications:	Prevention of nausea and vomiting.
Contraindications:	Known hypersensistivity to the drug.
Precautions:	1. Using Zofran after abdominal surgery or chemotherapy may mask the symptoms of an intestinal blockage (abdominal ileus).
	2. Zofran can cause changes in heart rhythm, including QT prolongation. Should be avoided in patients with long QT syndrome.
Side Effects:	1. CNS: dizziness, headache 2. CV: dysrhythmia listed under precautions 3. GI: constipation, diarrhea 4. EENT: blurred vision
Administration:	Adult: 4-8 mg IVP over 2-5 minutes. Pediatric: .15 mg/kg IVP over 2-5 minutes.
Supply:	Single use vials 4 mg in 2 mL
Notes:	Zofran is ineffective in nausea/vomiting caused by alcohol abuse.

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PROPARACAINE

Generic Name:	**Proparacaine**
Trade Name:	Alcaine
Chemical Class:	Ophthamlic Solution
Therapeutic Class:	Local Anesthetic
Actions:	ALCAINE (proparacaine hydrochloride ophthalmic solution) Solution is a rapid acting local anesthetic suitable for ophthalmic use. The onset of anesthesia usually begins within 30 seconds and lasts a relatively short period of time.
Pharmacokinetics:	The main site of anesthetic action is the nerve cell membrane where proparacaine interferes with the large transient increase in the membrane permeability to sodium ions that is internally produced by a slight depolarization of the membrane. As the anesthetic action progressively develops in a nerve, the threshold for electrical stimulation gradually increases and the safety factor for conduction decreases; when this action is sufficiently well developed, block of conduction is produced. The exact mechanism whereby proparacaine and other local anesthetics influence the permeability of the cell membrane is unknown; however, several studies indicate that local anesthetics may limit sodium ion permeability through the lipid layer of the nerve cell membrane. This limitation prevents the fundamental change necessary for the generation of the action potential
Indications:	1. Eye Trauma 2. Foreign body in the eye
Contraindications:	Sensitivity to the drug.
Precautions:	For topical ophthalmic use only. Do not touch dropper tip to any surface as this may contaminate the solution. Prolonged use of a topical ocular anesthetic may produce permanent corneal opacification with accompanying loss of vision.
Side Effects:	1. Pupil dilation 2. Minor discomfort
Interactions:	None
Administration:	Administer 1-2 drops as needed every 5 minutes for pain relief.
Supply:	Supplied in 15 mL DROPTAINER dispenser
Notes:	1. Store at 2-8 °C

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SODIUM BICARBONATE

Generic Name:	**Sodium Bicarbonate**
Trade Name:	N/A
Chemical Class:	Monosodium salt of carbonic acid
Therapeutic Class:	Alkalinizing agent; electrolyte supplement
Actions:	Sodium bicarbonate is an alkalyzing agent used to buffer acids present in the body during and after severe hypoxia. Sodium bicarbonate combines with excess acids (usually lactic acid) present in the body to form a weak, volatile acid. The bicarbonate-carbonic acid system constitutes the principal extracellular buffer. Increasing the bicarbonate concentration buffers excess hydrogen ion concentration, raises blood pH and reverses the clinical manifestations of acidosis.
Pharmacokinetics:	Onset in seconds. Peak 1 to 2 minutes. Duration 10 minutes.
Indications:	1. Tricyclic antidepressant (TCA) overdose. 2. Known pre-existing bicarbonate-responsive acidosis. 3. Known hyperkalemia. 4. Cardiac arrest in a dialysis patient (hyperkalemia). Should be an early treatment consideration.
Contraindications:	1. Hypokalemia. 2. Metabolic Acidosis
Precautions:	Sodium bicarbonate can cause metabolic alkalosis when administered in large quantities. It is important to caluclate the dosage based on patient weight and size.
Side Effects:	1. Metabolic alkalosis. 2. Hypernatremia. 3. Hypokalemia.
Interactions:	1. Most catecholamines and vasopressor (e.g., dopamine and epinephrine) can be deactivated by by alkaline solutions such as sodium bicarbonate; assure these drugs are not administered simultaneously. 2. Sodium bicarbonate should not be administered in conjunction with calcium chloride. A precipitate can form and block the IV line.
Administration:	Administer 1 mEq/kg IV. Repeat 0.5 mEq/kg every 10 minutes for dialysis code patient.
Supply:	Prefilled syringe containing 50 mEq in 50 mL (1 mEq/mL)(8.4% solution)
Notes:	Do NOT mix this drug with Calcium Gluconate, a white precipitate will form in the IV tubing

SUCCINYLCHOLINE

Generic Name:	**Succinylcholine**
Trade Name:	Quelicin, Anectine
Chemical Class:	Depolarizing Neuromuscular Blocker
Therapeutic Class:	Paralyzing Agent
Actions:	Causes paralysis of skeletal muscles by binding competitively to cholinergic receptors on motor end-plate to antagonize action of acetylcholine, resulting in block of neuromuscular transmission.
Pharmacokinetics:	Succinylcholine is a depolarizing skeletal muscle relaxant. As does acetylcholine, it combines with the cholinergic receptors of the motor end plate to produce depolarization. This depolarization may be observed as fasciculations. Subsequent neuromuscular transmission is inhibited so long as adequate concentration of Succinylcholine remains at the receptor site. Onset of flaccid paralysis is rapid (less than one minute after intravenous administration), and with single administration lasts approximately 4 to 6 minutes
Indications:	1. Adjunct to general anesthesia to facilitate advanced airway placement
Contraindications:	1. Known or suspected Hyperkalemia 2. Severe crush or traumatic injures greater than 5 days old 3. Burns occurring more than 24 hours prior 4. Pseudocholinesterase deficiencies 5. Familial or personal history of Malignant Hyperthermia 6. Chronic abdominal infection/sepsis 7. Chronic Paralysis.
Precautions:	Succinylcholine will paralyze skeletal muscle for approximately 4-6 minutes. Other airway rescue devices should be available in case the advanced airway cannot be placed the first time.
Side Effects:	1. CNS: Paralysis 2. CV: none 3. GI: none 4. RESP: Apnea
Administration:	*Adult:* Administer 1.5 mg/kg IVP *Pediatric:* Administer 2 mg/kg IVP
Supply:	Vial containing 200 mg in 10 cc
Notes:	

VASOPRESSIN

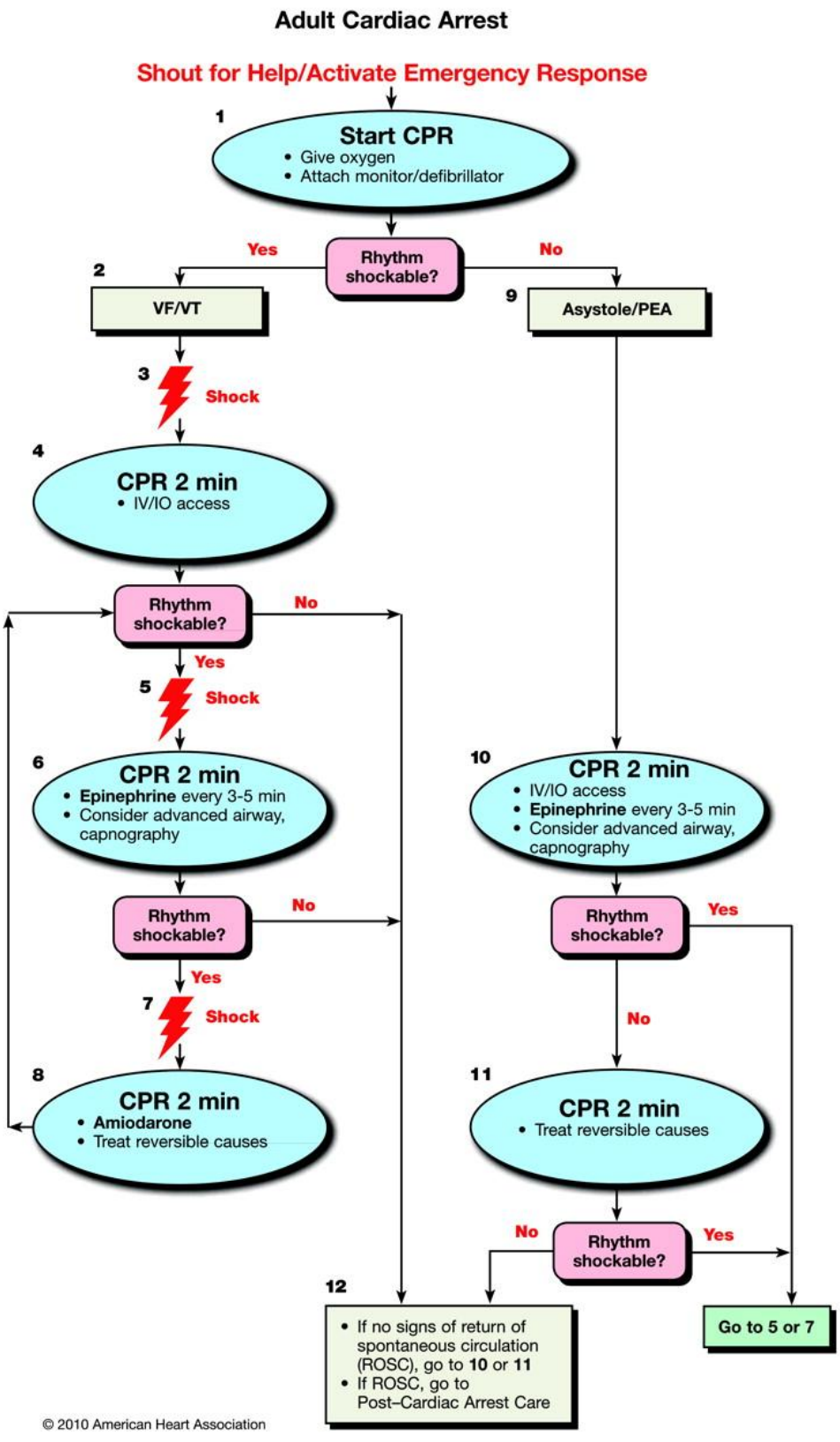
Generic Name:	**Vasopressin**
Trade Name:	Pitressin®
Chemical Class:	Arginine vasopressin
Therapeutic Class:	Antidiuretic; hemostatic
Actions:	When given in large doses, vasopressin causes non-adrenergic vasoconstriction. In cardiac arrest this has been shown to increase effetiveness of CPR and myocardial blood flow.
Pharmacokinetics:	t½ = 15 minutes
Indications:	Adult cardiac arrest.
Contraindications:	Hypersensitivity to the drug.
Precautions:	No precautions when used for the indicated conditions.
Side Effects:	1. CV: hypertension, dysrhythmias, pallor 2. GI: nausea, vomiting, abdominal cramping 3. RESP: bronchial constriction 4. SKIN: sweating, urticaria
Administration:	Administer 40 units IV. Do not repeat the dose.
Supply:	Vial containing 20 units in 1 mL.
Notes:	One dose of vasopressin is substituted for the first or second doses of epinephrine 1:10,000 in cardiac arrest.

Bellevue Fire Department

ACLS ALGORITHMS

Revised: September 2013
Protocol: App - J

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX



CPR Quality
- Push hard (≥2 inches [5 cm]) and fast (≥100/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 30:2 compression-ventilation ratio
- Quantitative waveform capnography
  - If P_{ETCO_2} <10 mm Hg, attempt to improve CPR quality
- Intra-arterial pressure
  - If relaxation phase (diastolic) pressure <20 mm Hg, attempt to improve CPR quality

Return of Spontaneous Circulation (ROSC)
- Pulse and blood pressure
- Abrupt sustained increase in P_{ETCO_2} (typically ≥40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

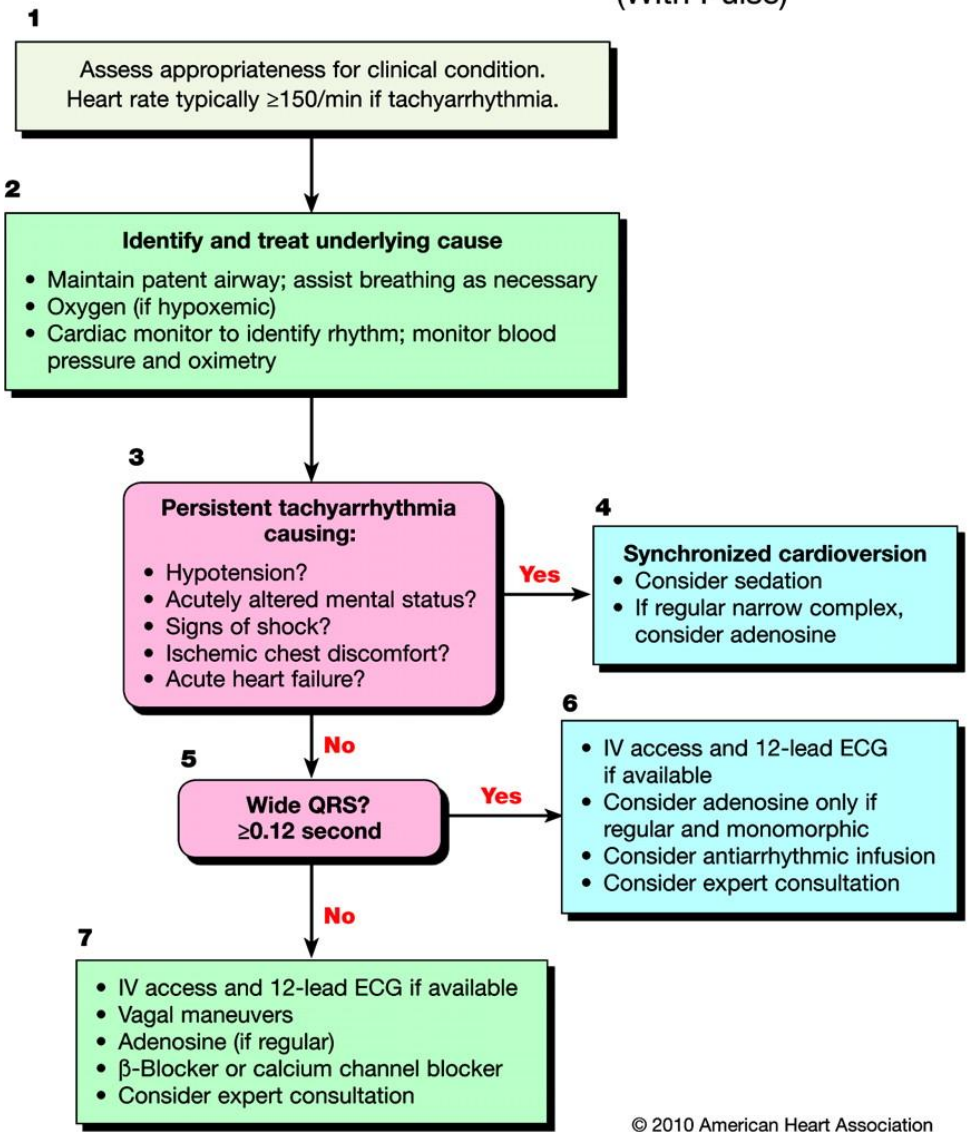
Shock Energy
- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic:** 360 J

Drug Therapy
- **Epinephrine IV/IO Dose:** 1 mg every 3-5 minutes
- **Vasopressin IV/IO Dose:** 40 units can replace first or second dose of epinephrine
- **Amiodarone IV/IO Dose:** First dose: 300 mg bolus. Second dose: 150 mg.

Advanced Airway
- Supraglottic advanced airway or endotracheal intubation
- Waveform capnography to confirm and monitor ET tube placement
- 8-10 breaths per minute with continuous chest compressions

Reversible Causes
- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

Adult Tachycardia
(With Pulse)



Doses/Details

Synchronized Cardioversion
Initial recommended doses:
- Narrow regular: 50-100 J
- Narrow irregular: 120-200 J biphasic or 200 J monophasic
- Wide regular: 100 J
- Wide irregular: defibrillation dose (NOT synchronized)

Adenosine IV Dose:
First dose: 6 mg rapid IV push; follow with NS flush.
Second dose: 12 mg if required.

Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia

Procainamide IV Dose:
20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given.
Maintenance infusion: 1-4 mg/min.
Avoid if prolonged QT or CHF.

Amiodarone IV Dose:
First dose: 150 mg over 10 minutes.
Repeat as needed if VT recurs.
Follow by maintenance infusion of 1 mg/min for first 6 hours.

Sotalol IV Dose:
100 mg (1.5 mg/kg) over 5 minutes.
Avoid if prolonged QT.

Adult Bradycardia
(With Pulse)

1

Assess appropriateness for clinical condition.
Heart rate typically <50/min if bradyarrhythmia.

2

Identify and treat underlying cause

- Maintain patent airway; assist breathing as necessary
- Oxygen (if hypoxemic)
- Cardiac monitor to identify rhythm; monitor blood pressure and oximetry
- IV access
- 12-Lead ECG if available; don't delay therapy

3

Persistent bradyarrhythmia causing:

- Hypotension?
- Acutely altered mental status?
- Signs of shock?
- Ischemic chest discomfort?
- Acute heart failure?

No

4

Monitor and observe

Yes

5

Atropine

If atropine ineffective:

- Transcutaneous pacing
  OR
- **Dopamine** infusion
  OR
- **Epinephrine** infusion

6

Consider:

- Expert consultation
- Transvenous pacing

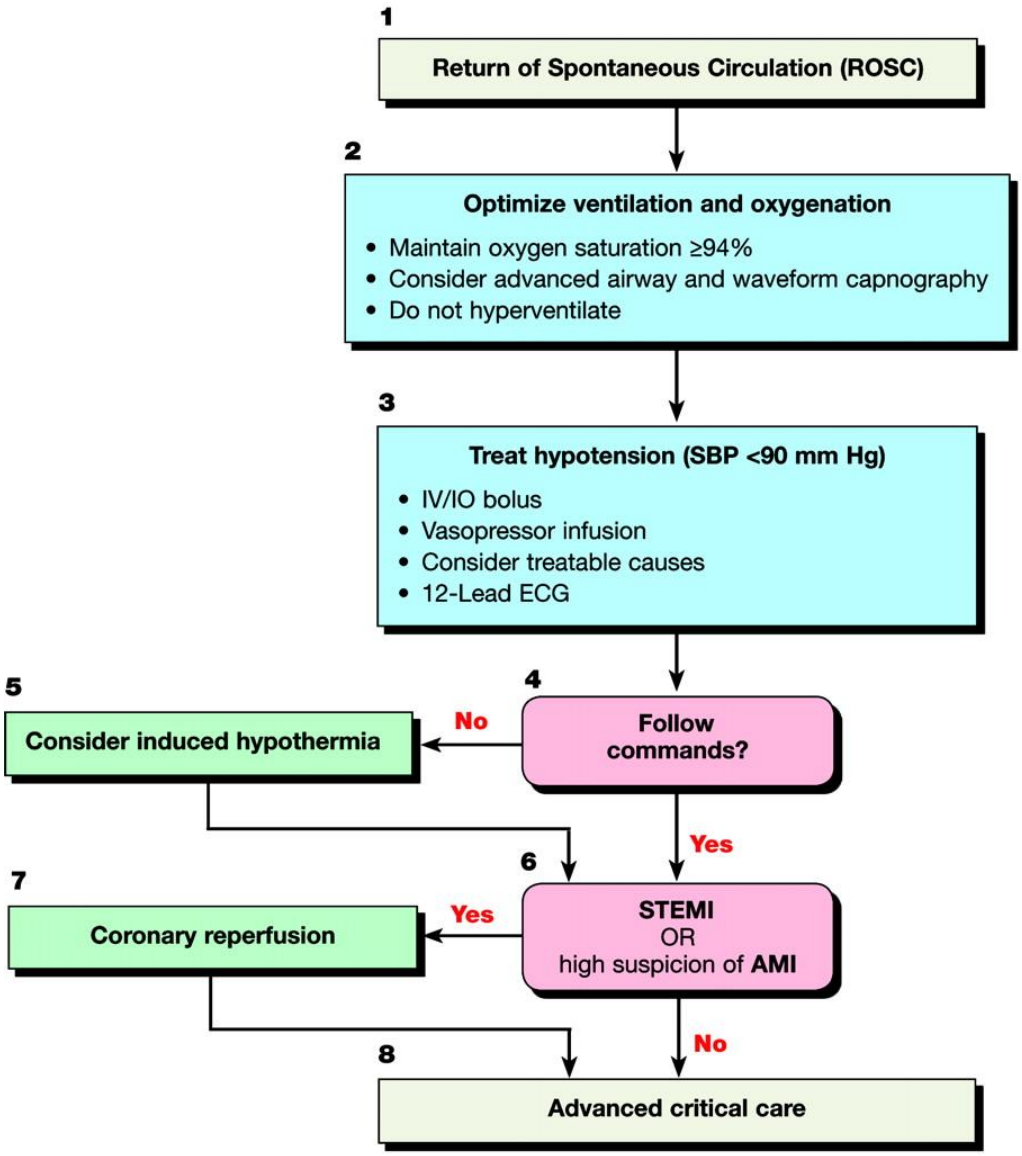
Doses/Details

Atropine IV Dose:
First dose: 0.5 mg bolus
Repeat every 3-5 minutes
Maximum: 3 mg

Dopamine IV Infusion:
2-10 mcg/kg per minute

Epinephrine IV Infusion:
2-10 mcg per minute

Adult Immediate Post–Cardiac Arrest Care



Doses/Details

Ventilation/Oxygenation
Avoid excessive ventilation. Start at 10-12 breaths/min and titrate to target P_{ETCO_2} of 35-40 mm Hg.
When feasible, titrate F_{IO_2} to minimum necessary to achieve Sp_{O_2} ≥94%.

IV Bolus
1-2 L normal saline or lactated Ringer's.
If inducing hypothermia, may use 4°C fluid.

Epinephrine IV Infusion:
0.1-0.5 mcg/kg per minute (in 70-kg adult: 7-35 mcg per minute)

Dopamine IV Infusion:
5-10 mcg/kg per minute

Norepinephrine IV Infusion:
0.1-0.5 mcg/kg per minute (in 70-kg adult: 7-35 mcg per minute)

Reversible Causes
- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

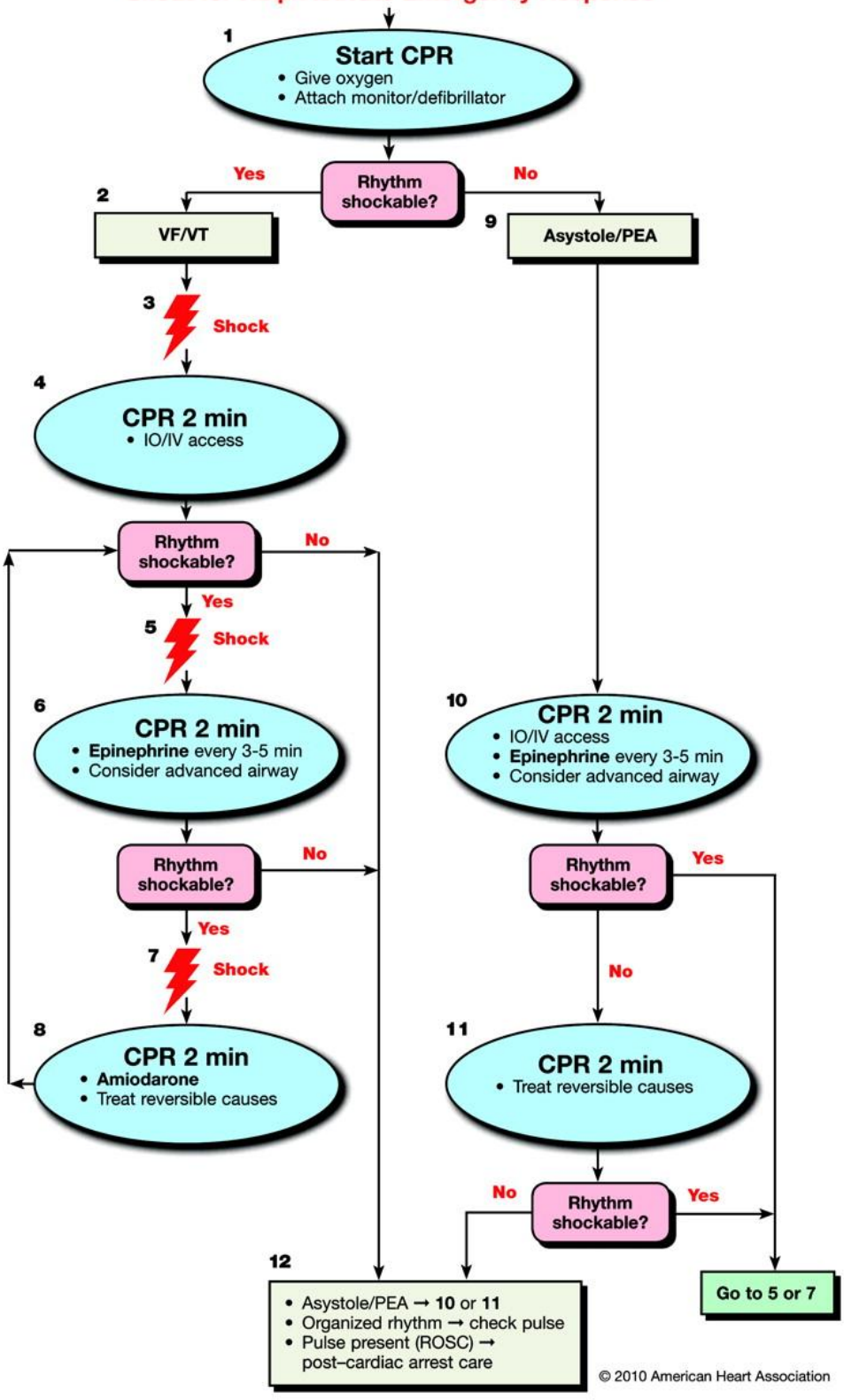
Bellevue Fire Department

PALS ALGORITHMS

Revised: September 2013
Protocol: App - K

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

Pediatric Cardiac Arrest



Doses/Details

CPR Quality
- Push hard (≥1/3 of anterior-posterior diameter of chest) and fast (at least 100/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 15:2 compression-ventilation ratio. If advanced airway, 8-10 breaths per minute with continuous chest compressions

Shock Energy for Defibrillation
First shock 2 J/kg, second shock 4 J/kg, subsequent shocks ≥4 J/kg, maximum 10 J/kg or adult dose.

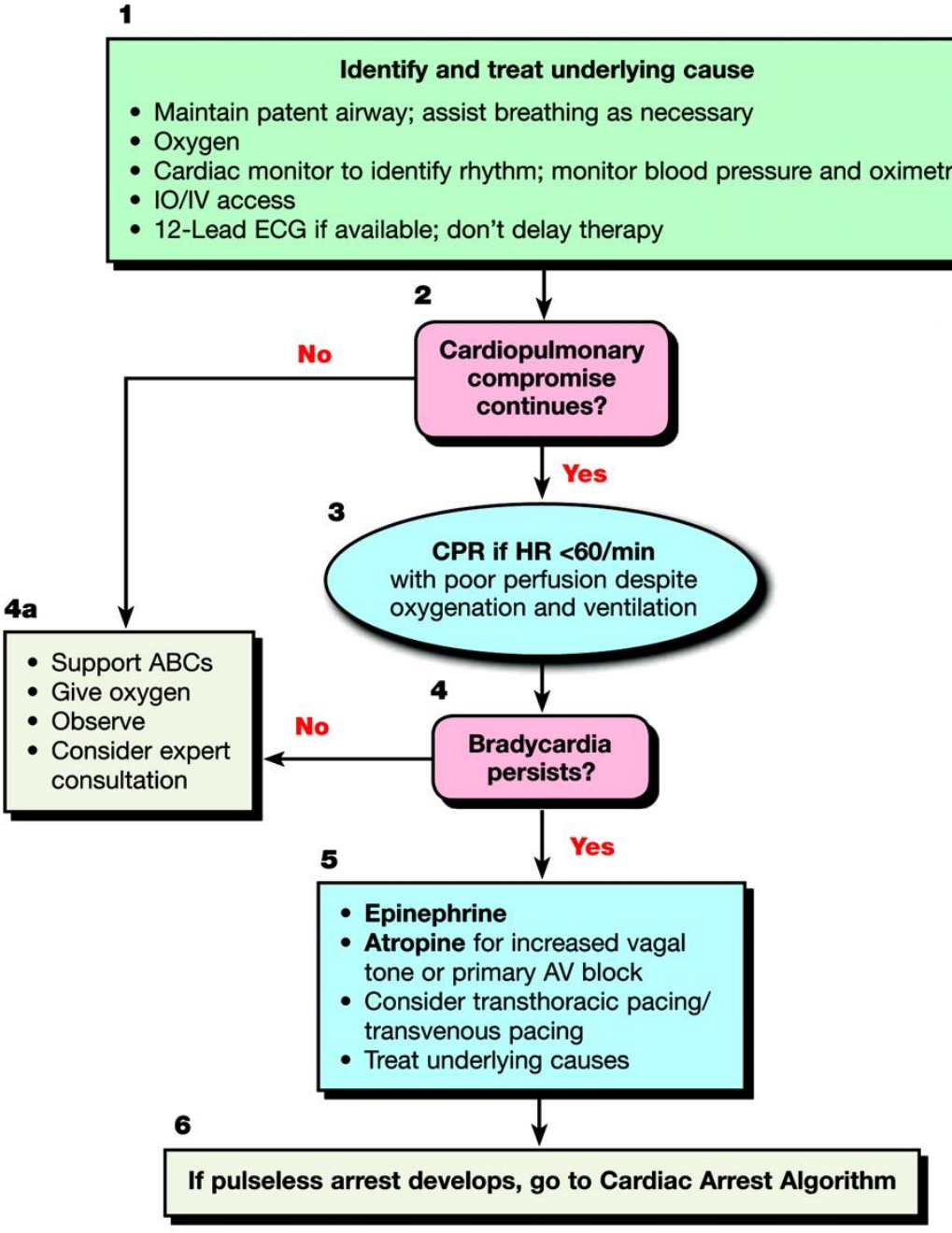
Drug Therapy
- **Epinephrine IO/IV Dose:** 0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes. If no IO/IV access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of 1:1000 concentration).
- **Amiodarone IO/IV Dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 2 times for refractory VF/pulseless VT.

Advanced Airway
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place give 1 breath every 6-8 seconds (8-10 breaths per minute)

Return of Spontaneous Circulation (ROSC)
- Pulse and blood pressure
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes
- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypoglycemia
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

Pediatric Bradycardia
With a Pulse and Poor Perfusion



Cardiopulmonary Compromise

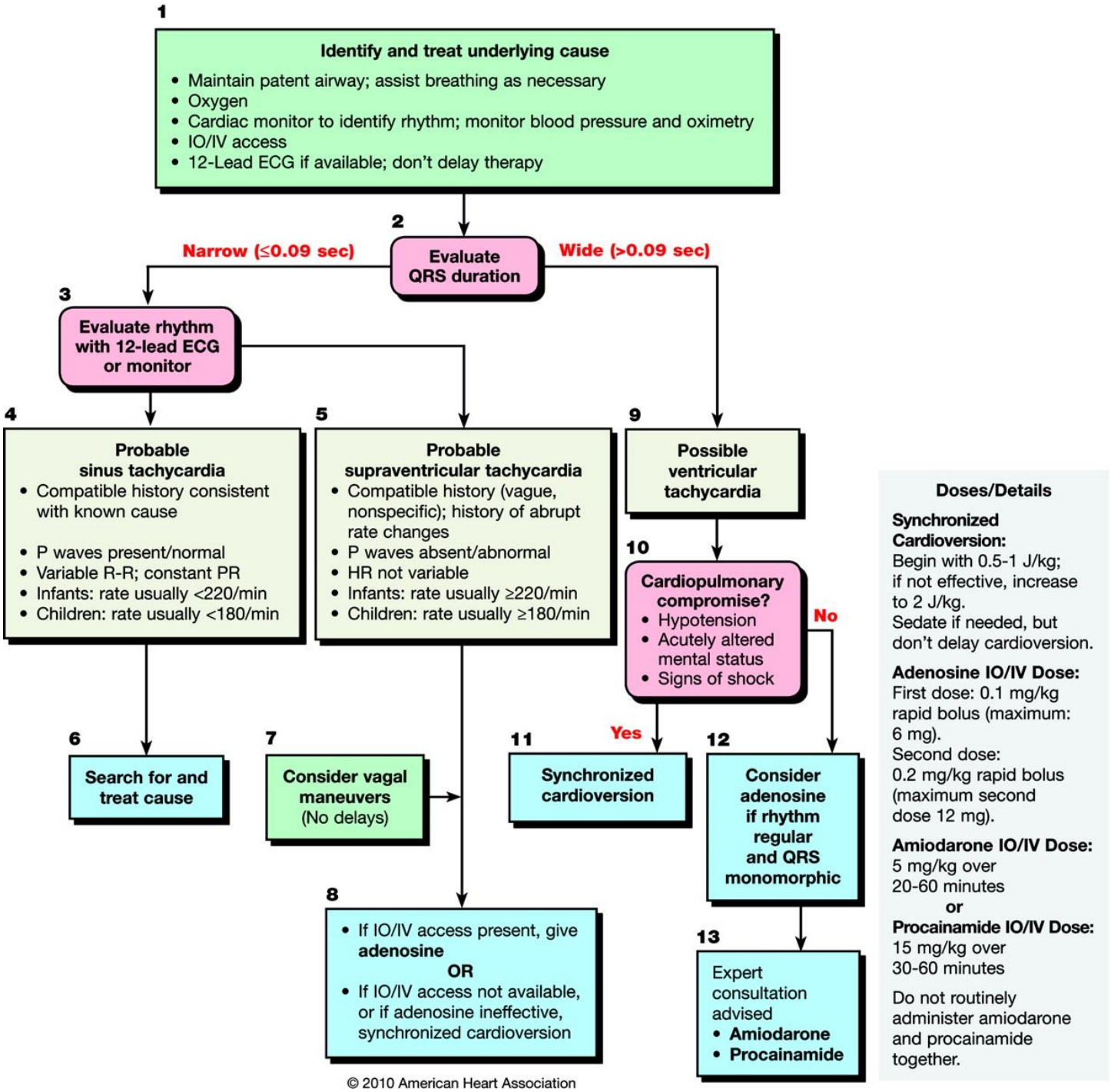
- Hypotension
- Acutely altered mental status
- Signs of shock

Doses/Details

Epinephrine IO/IV Dose:
0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes. If IO/IV access not available but endotracheal (ET) tube in place, may give ET dose: 0.1 mg/kg (0.1 mL/kg of 1:1000).

Atropine IO/IV Dose:
0.02 mg/kg. May repeat once. Minimum dose 0.1 mg and maximum single dose 0.5 mg.

Pediatric Tachycardia
With a Pulse and Poor Perfusion



Bellevue Fire Department

PALS ALGORITHMS

Revised: September 2013
Protocol: App - K

Job Classes: EMT, AEMT, Paramedic
Category: APPENDIX

Bellevue Fire Department

RAPID SEQUENCE AIRWAY

Revised: September 2013	Job Classes: Paramedic
Protocol: App - L	Category: APPENDIX

INCLUSION CRITERIA:

This treatment protocol is intended to be used as a supplement to the standard treatment protocols used by the Bellevue Fire Department. This procedure is to be used to facilitate advanced airway placement in adults and to protect the airway in the critically ill or injured patient. **It is recommended that two (2) paramedics are present if possible when RSA is performed.**

INDICATIONS:

The goal is to protect and maintain the airway when other conventional methods of maintaining the airway are not effective. Typically, patients requiring RSA are those patients with potential or actual airway compromise due, but not limited, to the following:

- Altered Mental Status
- Respiratory Failure
- Clenched Jaw (Trismus) secondary to head injuries
- Combative or agitated patients that threaten their own airway or spinal cord.

CONTRAINDICATIONS (Succinlycholine):

- Known or suspected Hyperkalemia
- Severe crush or traumatic injures greater than 5 days old
- Burns occurring more than 8 hours prior
- Pseudocholinesterase deficiencies
- Familial or personal history of Malignant Hyperthermia
- Chronic abdominal infection/sepsis
- Chronic Paralysis

CONSIDERATIONS:

- If unable to ventilate effectively after rescue airway is inserted, consider Quik-Trach insertion
- In the event of malignant hyperthermia, initiate rapid cooling and transport **EMERGENT** to the closest appropriate hospital. Advise hospital early of increase in temperature.
- If the patient suffers cardiac arrest after Succinylcholine administration, consider Sodium Bicarbonate 1 mEq/kg IV/IO and/or Calcium Gluconate 1000 mg IV/IO
    - Ensure IV line is thoroughly flushed in between administration of Sodium Bicarbonate and Calcium Gluconate

Bellevue Fire Department

RAPID SEQUENCE AIRWAY

Revised: September 2013
Protocol: App - L

Job Classes: Paramedic
Category: APPENDIX

EQUIPMENT:

- BVM with supplemental O2
- Suction
- Advanced Airway
- Thomas Tube Holder
- Magill Forceps
- Capnography
- Succinylcholine 200mg/10cc
- Etomidate 20mg/10cc

PROCEDURE:

1. **Preparation**
    a. Administer O2 via NRB at 15 lpm. BVM may be used if respirations are ineffective
    b. Record O2 saturation prior to medications
    c. Record temperature (axillary)
2. **Initial Sedation**
    a. Adult – Etomidate 0.3 mg/kg IV/IO
3. **Initial Paralysis**
    a. Adult - Succinylcholine 1.5 mg/kg IV/IO
    *Onset of paralysis is 30-60 seconds, fasiculations may be present
4. **Advanced Airway Placement**
    a. Have rescue airway ready if needed
    b. Confirm placement (2.1 Airway-Oxygen)
5. **Maintenance**
    a. Adult – Ativan 2-4 mg IV/IO/IN administered in 2 mg increments
    b. Record temperature (axillary) every 5 min
    c. Monitor vital signs
    d. Anticipate pain management

		50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
Etomidate	**0.3 mg/kg**	15 mg	18 mg	21 mg	24 mg	27 mg	30 mg	33 mg	36 mg
Succinylcholine	**1.5 mg/kg**	75 mg	90 mg	105 mg	120 mg	135 mg	150 mg	165 mg	180 mg

Bellevue Fire Department

CYANOKIT

Revised: September 2013 Protocol: App - M	Job Classes: Paramedic Category: APPENDIX

OVERVIEW:

Cyanide is a rapidly acting cellular asphyxiant which inhibits oxygen exchange in the body.

INDICATIONS:

1. Known or suspected cyanide poisoning
2. Smoke inhalation victims with altered mental status
3. Firefighters working overhaul with acute onset altered mental status
4. Cardiac arrest secondary to smoke inhalation

CONTRAINDICATIONS:

Known hypersensitivity to hydroxobalamin or cyanocobalamin

CONSIDERATIONS:

If this drug is chosen to be administered, it should have a dedicated IV/IO line for this drug only. Many other drugs are incompatible with CYANOKIT and may cause precipitates to form or violent reactions in the IV tubing.

DOSAGE:

- Adult – 5g
- Pediatric 70 mg/kg

EQUIPMENT:

- 1 Vial containing Hydroxocobalamin for Injection, 5g
- 1 Intravenous administration tubing set (15 gtts)
- 1 Transfer Spike
- 1 bag of 0.9% Normal Saline

PROCEDURE:

1. Decontaminate patient as needed
2. Establish IV/IO access designated for CYANOKIT only
3. Reconstitute powder by adding 200cc of normal saline to vial up to fill line by using transfer spike
4. Invert or rock the vial for 60 seconds to mix solution, do NOT shake
5. Spike using 15 gtts vented tubing and infuse over 15 minutes (200 gtts/min)

SIDE EFFECTS:

- Transient hypertension, usually returns to baseline within 4 hours.

Bellevue Fire Department

THERAPUETIC HYPOTHERMIA

Revised: September 2013	Job Classes: Paramedic
Protocol: App - N	Category: APPENDIX

INCLUSION CRITERIA:

This treatment protocol is intended to be used as a supplement to the standard treatment protocols used by the Bellevue Fire Department. This procedure is to be used to initiate cooling measures in order to protect the neurological status of an adult patient who has suffered a cardiac arrest event and EMS personnel have achieved a Return of Spontaneous Circulation (ROSC).

INDICATIONS:

The goal is to decrease the body's oxygen demand level, therefore directing the oxygenated blood to the most vital organs first. The following criteria must be met in order to consider Therapeutic Hypothermia:

- Adult patient >18 years of age
- Patient's initial temperature must be at least 34 C (95.2°F)
- Cardiac arrest of medical nature
- Patient must remain unconscious after ROSC
- Initial rhythm must be Ventricular Fibrillation or Pulseless Ventricular Tachycardia
- Patient must have advanced airway in place with a Capnography reading of 20 mmHg or higher

CONTRAINDICATIONS:

- Traumatic Arrest
- Patient becomes conscious after ROSC
- PEA or Asystole as initial rhythm

CONSIDERATIONS:

- Ice packs may also be utilized to help cool patient, place them on the groin, neck, and in the axillae.
- If patient goes back into cardiac arrest, follow appropriate protocols
- Post-Resuscitation medications may be administered through the cold saline

EQUIPMENT:

- EZ-IO needle kit
- 1L Normal Saline (Refrigerated to 4 C)
- 10 gtts set
- Pressure Bag
- Ativan 2 mg/mL

Bellevue Fire Department

THERAPUETIC HYPOTHERMIA

Revised: September 2013	Job Classes: Paramedic
Protocol: App - N	Category: APPENDIX

PROCEDURE:

1. Achieve ROSC, confirmed by palpable pulses and Capnography reading of at least 20 mmHg
2. Spike 1 LNS of refrigerated fluid and flush tubing
3. If not already done, establish EZ-IO in proximal tibia and secure IO needle with coban and packing.
4. Attach fluids and administer a wide open bolus of 30 cc/kg to a maximum of 2 L (see chart below)
5. Reassess patient's temperature every 5 minutes along with vitals.
6. Consider the use of ice packs in the neck, groin, and axillae.
7. If patient begins to shiver, administer Ativan 2-4 mg IV/IO/IN administered in 2 mg increments.
    a. At any time the patient becomes conscious, IMMEDIATELY stop the infusion

		50 kg	60 kg	70 kg	80 kg	90 kg	100 kg	110 kg	120 kg
Cold Saline (4 C)	**30 cc/kg**	1500cc	1800cc	2000cc	2000cc	2000cc	2000cc	2000cc	2000cc

Bellevue Fire Department

PLEURAL DECOMPRESSION

Revised: September 2013 Protocol: App - O	Job Classes: Paramedic Category: APPENDIX

Indications:

1. Consider needle decompression for the following conditions:

    a. Code 99 patients with blunt trauma

    b. Blunt trauma with at least 3 of the following:
        i. Absent/diminished lung sounds on the affected side
        ii. Increased work of breathing
        iii. Hypotension
        iv. Inability to maintain SpO2 above 90%
        v. Jugular Vein Distention
        vi. Tracheal Deviation

2. Perform bilateral needle decompression in all Code 99 patients with penetrating trauma

3. Perform needle decompression for any patient with penetrating chest trauma AND absent/diminished lung sounds.

Procedure:

1. Clean the area you are working in and prep your equipment, you will need the following:
    a. 3" 12 ga. or 14 ga. IV Needle
    b. 4x4 Gauze
    c. Tape
    d. 3-Way stopcock
2. Identify your landmarks, the primary insertion point should be the anterior chest:
    a. 2nd intercostal space, mid-claivcular line
    b. 4th intercostals space, mid-axillary line
3. Insert the needle at a 90° angle to the patient's chest going **OVER** the rib until you hear the relief of air come out of the needle.
4. Hold the catheter in place and remove the needle from the patient, leaving the catheter inserted.
5. Secure the catheter with bulky dressing and tape.
6. Apply the 3-way stopcock and close after the air has all been released. You will need to reassess this frequently to burp the patient's chest.
7. Once the catheter is in place, it should not be removed.