REGIONAL EMERGENCY MEDICAL ADVISORY COMMITTEE

NEW YORK CITY

PREHOSPITAL TREATMENT PROTOCOLS

BASIC LIFE SUPPORT PROTOCOLS

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400

WEAPONS OF MASS DESTRUCTION NERVE AGENT EXPOSURE PROTOCOL

Authorization for the use of the MARK I Antidote kits comes ONLY from the FDNY Office of Medical Affairs (OMA) through a class order issued by a FDNY-OMA Medical Director who is on-scene or as relayed by an FDNY-OMA Medical Director through On-Line Medical Control (Telemetry) or through FDNY Emergency Medical Dispatch.*

NOTE: THE ISSUANCE OF ANY CLASS ORDER SHALL BE CONVEYED TO ALL REGIONAL MEDICAL CONTROL FACILITIES FOR RELAY TO UNITS IN THE FIELD.

TREATMENT WITHIN THE "HOT" AND "WARM" ZONES MAY BE PERFORMED ONLY BY APPROPRIATELY TRAINED PERSONNEL WEARING APPROPRIATE CHEMICAL PROTECTIVE CLOTHING (CPC) AS DETERMINED BY THE FDNY INCIDENT COMMANDER.

- Those triaged as **RED Tag** may be treated simultaneously with decontamination.
- Those triaged as **YELLOW Tag** will be treated as soon as possible following decontamination.
- Those who are **GREEN Tag** (asymptomatic) will be decontaminated and receive close observation.

NOTE: One (1) MARK I Kit contains one (1) each: 2 mg Atropine auto-injector, and 600 mg 2-PAM (Pralidoxime chloride) auto-injector.

Initial Treatment (Table 1)

Tag Color	Signs & Symptoms	Atropine Dose Monitor Interval	2-Pam Dose
RED	Severe Respiratory Distress, Agitation **SLUDGEM**	3 Auto-injectors (6 mg) Monitor every 5 minutes	3 Auto-injectors (1.8 gm)
YELLOW	*Respiratory Distress,* ***SLUDGEM***	2 Auto-injectors (4 mg) Monitor every 10 minutes	1 Auto-injector (600 mg)
GREEN	Asymptomatic None	Monitor for signs & symptoms Monitor every 15 minutes	None

NOTE: DO NOT GIVE MORE THAN THREE (3) 2-PAM (GRAY TOP) AUTO-INJECTORS TO ANY PATIENT. THE MAXIMUM TOTAL DOSE OF 2-PAM IS 1.8 GRAMS.

- Class Order - A general order given by a FDNY-OMA Medical Director to perform a specific intervention or interventions at a specific location/s during a specified time period. This order is generally reserved for disaster situations.

All treatment subsequent to the initial doses shall follow Table 2. This will include extended on-scene operations, transport to ambulance destinations, and treatment at casualty collection points. The end point of treatment is drying of secretions and resolution of other symptoms.

Extended Re-Evaluation & Treatment (Table 2)

Tag Color	Signs & Symptoms	Atropine Dose Monitor Interval	2 Pam Dose	Atropine Repeat Dosing Frequency
RED	Severe Respiratory Distress, Agitation, **SLUDGEM**	2 mg Monitor every 5 minutes	Up to a maximum of 1.8 gm (3 auto-injectors)	Atropine 3-5 minutes as needed
YELLOW	Respiratory Distress **SLUDGEM**	2 mg Monitor every 5 to 15 minutes	Up to a maximum of 600 mg (1 auto-injector)	Atropine 5-10 minutes as needed
GREEN	Asymptomatic	None Monitor every 15 minutes	None	Atropine 5-15 minutes as needed

NOTE: DO NOT GIVE MORE THAN THREE (3) 2-PAM (GRAY TOP) AUTO-INJECTORS TO ANY PATIENT. THE MAXIMUM TOTAL DOSE OF 2-PAM IS 1.8 GRAMS.

- Record on the Triage Tag the number of Atropine and 2-PAM Auto-injectors used
- **ASYMPTOMATIC PATIENTS DO NOT REQUIRE TREATMENT**
  - monitor every 15 minutes

PEDIATRIC PATIENTS

<table>
<tr><th>Tag Color</th><th>Exposure
(and/or Signs of Respiratory Distress, Agitation, SLUDGEM)</th><th colspan="2">Atropine and 2-Pam Doses
Monitor Interval</th><th>Atropine Repeat Dosing Frequency</th></tr>
<tr><td rowspan="2">RED (Peds)</td><td rowspan="2">Yes</td><td>Age <1 years</td><td>1 Peds Atropine Auto-injector (0.5 mg)
No 2-PAM
Monitor every 3 minutes</td><td rowspan="2">Atropine every 3 minutes as needed</td></tr>
<tr><td>Age 1-8 years</td><td>1 Atropine Auto-injector (2 mg)
1 2-PAM Auto-injector (600 mg)
Monitor every 3 minutes</td></tr>
<tr><td>GREEN (Peds)</td><td>No</td><td colspan="3">None
Monitor every 10 minutes for evidence of exposure</td></tr>
</table>

NOTE: NOTE: PEDIATRIC PATIENTS OLDER THAN 8 YEARS OLD SHOULD BE TREATED VIA THE ADULT PROTOCOL.

401

RESPIRATORY DISTRESS/FAILURE

NOTE: ALL PATIENTS WHO ARE IN RESPIRATORY ARREST MUST HAVE VENTILATORY ASSISTANCE UNLESS A VALID NEW YORK STATE PREHOSPITAL DNR ORDER IS PRESENTED TO THE CREW.

1. Monitor the airway.
2. If an obstructed airway is suspected, see Protocol #402.
3. Administer oxygen.
4. For patients between one (1) and sixty-five (65) years of age, who are experiencing an exacerbation of their previously diagnosed Asthma, see protocol #407.
5. Do **NOT** permit physical activity.
6. Request Advanced Life Support assistance.
7. Monitor breathing for adequacy.

NOTE: MONITOR BREATHING CONTINUOUSLY. BE ALERT FOR SIGNS OF HYPOXIA AND/OR INCREASING RESPIRATORY DISTRESS.

8. Place the patient in a Fowler's, semi-Fowler's position, or in a position of comfort.
9. Transport.
10. If the patient is breathing at a rate less than 8 or greater than 24 times per minute and/or exhibiting signs of inadequate respiration, assisted ventilations may be required. The presence of a valid DNR order does not alter this requirement for a patient who is not in respiratory or cardiac arrest. This should be done utilizing one of the following methods:
    - Pocket mask with supplemental oxygen set at 10-15 liters/minute.
    - Bag-Valve-Mask and reservoir with flow set at 10-15 liters/minute.
    - Mouth-to-mouth or mouth-to-mouth and nose (at provider option, only when adjuncts are not available).

NOTE: DO NOT USE A DEMAND VALVE RESUSCITATOR DUE TO THE POSSIBILITY OF CAUSING SEVERE, LIFE-THREATENING COMPLICATIONS

11. Transport.

402

OBSTRUCTED AIRWAY

1. IF THE PATIENT IS CONSCIOUS AND **CAN BREATHE**, COUGH, SPEAK, OR CRY:
   - Encourage coughing.
2. IF THE PATIENT IS UNCONSCIOUS OR **CANNOT BREATHE**, COUGH, SPEAK, OR CRY:
   - Perform obstructed airway clearing maneuvers.
3. Request Advanced Life Support assistance.
4. Transport
5. Continue obstructed airway maneuvers enroute to the hospital until the foreign body is dislodged.

NOTE: THE PATIENT MUST BE TAKEN TO THE HOSPITAL FOR EVALUATION EVEN IF THE AIRWAY IS CLEARED.

6. IF AIRWAY OBSTRUCTION IS RELIEVED:
   - Monitor the airway.
   - Begin Basic Cardiac Life Support procedures, if appropriate. (See Protocol #403.)
   - Administer oxygen.
   - Monitor breathing for adequacy.
   - Continue transport.

403

NON-TRAUMATIC CARDIAC ARREST

1. Begin Basic Cardiac Life Support procedures.
2. Request Advanced Life Support assistance.
3. If appropriately trained personnel are present and an automated external defibrillator is available, see below.
    - In EMS witnessed arrests, perform CPR until defibrillator is attached.
    - In arrests not witnessed by EMS, perform two (2) minutes of CPR prior to defibrillator use.
4. Transport.

NOTE: WHEN AVAILABLE, PEDIATRIC AED-CAPABLE PADS AND CABLES SHALL BE USED FOR ALL PEDIATRIC PATIENTS AGED 1 – 8 YEARS OLD.

IF PEDIATRIC AED-CAPABLE PADS AND CABLES ARE NOT AVAILABLE, THE ADULT AED AND ADULT AED-CAPABLE PADS AND CABLES SHALL BE USED FOR ALL PEDIATRIC PATIENTS AGED 1 YEAR AND OLDER. AED PADS MUST NOT OVERLAP EACH OTHER; IF OVERLAP OCCURS, APPLY PADS ANTERIORLY AND POSTERIORLY.

DO NOT USE ADULT AED AND ADULT PADS AND CABLES ON PATIENTS UNDER THE AGE OF 1 YEAR.

GUIDELINES FOR AUTOMATED DEFIBRILLATION

1. If present, remove Nitroglycerin patch and wipe off remaining paste; avoid contact with your skin.
2. Attach automated external defibrillator to patient.

NOTE: THE DEFIBRILLATOR'S ANALYSIS OF THE RHYTHM MUST BE DONE WITHOUT CPR IN PROGRESS.

IF THE PATIENT HAS A PERMANENT PACEMAKER IN PLACE, POSITION THE SEMI-AUTOMATED DEFIBRILLATOR PADS AT LEAST ONE (1) INCH AWAY FROM THE PACEMAKER DEVICE.

3. Whenever the "NO SHOCK INDICATED" message appears, CPR should be performed for 2 MINUTES followed by the next analysis.
4. After a total of three (3) cycles of CPR and analysis, continue CPR.

NOTE: DURING TRANSPORT, OR IF TRANSPORT IS DELAYED, CONTINUE CPR, RE-ANALYZE EVERY 2 MINUTES, AND SHOCK AS INDICATED.

404

NON-TRAUMATIC CHEST PAIN

1. Monitor the airway.
2. Administer oxygen.
3. Do **NOT** permit physical activity.
4. Request Advanced Life Support assistance, if available. Do NOT delay transport.
5. Monitor breathing for adequacy.
6. Place patient in a position of comfort.
7. If chest pain is still present, assist the patient with self-administration of the patient's own previously prescribed Nitroglycerin, if available. One tablet may be taken provided that the patient's **systolic** pressure is at least 120 mm Hg.
8. If the patient is 35 years of age or older, or a patient of any age who has a cardiac history, administer two (2) Chewable Baby Aspirins, 162 mg, by mouth, unless the patient has any of the following contraindications:
   a. Known Aspirin allergy or hypersensitivity
   b. Recent gastrointestinal bleeding
   c. Bleeding disorder
   d. Is taking Warfarin (Coumadin).
9. Transport.

407

ASTHMA

For patients between one (1) and sixty-five (65) years of age, who are experiencing an exacerbation of their previously diagnosed Asthma.

1. Assess the airway
2. Administer oxygen
3. Monitor breathing

NOTE: IF PATIENT EXHIBITS SIGNS OF IMMINENT RESPIRATORY FAILURE, REFER TO PROTOCOL #401 – ADULT RESPIRATORY DISTRESS/FAILURE OR #450 – PEDIATRIC RESPIRATORY DISTRESS/FAILURE.

4. Do not permit physical activity
5. Place the patient in a Fowler's or Semi-Fowler's position
6. Assess the following prior to administration of the first nebulized treatment:
   - Vital signs
   - Patient's ability to speak in complete sentences
   - Accessory muscle use
   - Wheezing
   - Patient self-assessment of severity (BORG)

NOTE: FOR PATIENTS WITH A HISTORY OF ANGINA, MYOCARDIAL INFARCTION, ARRHYTHMIA, OR CONGESTIVE HEART FAILURE, MEDICAL CONTROL MUST BE CONTACTED PRIOR TO INITIATING STEP # 7.

7. Administer Albuterol Sulfate 0.083%, one (1) unit dose or 3 cc via nebulizer at a flow rate that will deliver the solution over 5 minutes to 15 minutes. Do not delay transport to complete medication administration.
8. Begin transport.

NOTE: FOR PATIENTS IN SEVERE RESPIRATORY DISTRESS, CALL FOR ADVANCED LIFE SUPPORT ASSISTANCE, DO NOT DELAY TRANSPORT.

9. If symptoms persist, treatment may be repeated once for a total of two (2) doses.
10. Upon completion of patient treatment or transfer of patient care to an ALS Provider or a 911 Receiving Hospital, reassess the patient. See Step # 6.

NOTE: MEDICAL CONTROL MUST BE CONTACTED FOR ANY PATIENT REFUSING MEDICAL ASSISTANCE OR TRANSPORT.

410

ANAPHYLACTIC REACTION

NOTE: ANAPHYLAXIS CAN BE A POTENTIALLY LIFE THREATENING SITUATION MOST OFTEN ASSOCIATED WITH A HISTORY OF EXPOSURE TO AN INCITING AGENT/ALLERGEN (BEE STING OR OTHER INSECT VENOM, MEDICATIONS/DRUGS, OR FOODS SUCH AS PEANUTS, SEAFOOD, ETC.). THE PRESENCE OF RESPIRATORY DISTRESS (UPPER AIRWAY OBSTRUCTION [STRIDOR], SEVERE BRONCHOSPASM [WHEEZING]) AND/OR CARDIOVASCULAR COLLAPSE/HYPOTENSIVE SHOCK CHARACTERIZE THE CLINICAL FINDINGS THAT AUTHORIZE AND REQUIRE TREATMENT ACCORDING TO THIS PROTOCOL. THIS PROTOCOL APPLIES TO PATIENTS 9 YEARS OF AGE OR OLDER, OR PATIENTS WEIGHING MORE THAN 30 KG (66 LBS).

1. Determine that the patient's history includes a history of anaphylaxis, severe allergic reaction and/or recent exposure to an allergen or inciting agent.

NOTE: REQUEST ALS ASSISTANCE, IF AVAILALE. DO NOT DELAY TRANSPORT TO THE HOSPITAL

2. Administer high concentration oxygen.
3. Assess the cardiac and respiratory status of the patient.

   a. If **both** the cardiac and respiratory status of the patient are normal, initiate transport.

   b. If **either** the cardiac or respiratory status of the patient is **abnormal**, proceed as follows:

      i. If the patient is having severe respiratory distress **or** shock **and** has been prescribed an Epinephrine auto-injector, assist the patient in administering the Epinephrine (0.3 mg via an auto-injector). If the patient's auto-injector is not available or expired, and the EMS agency carries an Epinephrine auto-injector, administer the Epinephrine (0.3 mg via an auto-injector) as authorized by the agency's Medical Director.

      ii. If the patient has not been prescribed an Epinephrine auto-injector, begin transport and contact On-Line Medical Control for authorization to administer 0.3 mg Epinephrine via an auto-injector, if available.

NOTE: IN THE EVENT THAT YOU ARE UNABLE TO MAKE CONTACT WITH ON-LINE MEDICAL CONTROL (RADIO FAILURE, NO COMMUNICATIONS) AND THE PATIENT IS UNDER 35 YEARS OF AGE, YOU MAY ADMINISTER 0.3 mg EPINEPHRINE (ONE DOSE ONLY) VIA AN AUTO-INJECTOR IF INDICATED. THE INCIDENT MUST BE REPORTED TO ON-LINE MEDICAL CONTROL AND YOUR AGENCY'S MEDICAL DIRECTOR AS SOON AS POSSIBLE

      iii. Contact On-Line Medical Control for authorization to administer a second administration of 0.3 mg Epinephrine via an auto-injector, if needed.

iv. Refer immediately to the REMAC Prehospital Treatment Protocol for Respiratory Distress/Failure (#401), Obstructed Airway (#402), or Shock (#415) as appropriate.

4. If cardiac arrest occurs, refer immediately to the REMAC Prehospital Treatment Protocol for Non-Traumatic Cardiac Arrest (#403).

411

ALTERED MENTAL STATUS

NOTE: EMOTIONALLY DISTURBED PATIENTS MUST BE PRESUMED TO HAVE AN UNDERLYING MEDICAL OR TRAUMATIC CONDITION CAUSING AN ALTERED MENTAL STATUS.

ASSESS SUCH PATIENTS FOR AN UNDERLYING MEDICAL OR TRAUMATIC CONDITION CAUSING AN ALTERED MENTAL STATUS AND TREAT AS NECESSARY.

1. Assess the situation for potential or actual danger and establish a safe zone, if necessary.

NOTE: ALL SUICIDAL OR VIOLENT THREATS OR GESTURES MUST BE TAKEN SERIOUSLY. THESE PATIENTS SHOULD BE IN POLICE CUSTODY IF THEY POSE A DANGER TO THEMSELVES AND/OR OTHERS.

2. If an underlying medical or traumatic condition causing an altered mental status is not apparent; the patient is fully conscious, alert, and able to communicate; and an emotional disturbance is suspected, see Protocol #430.
3. Monitor the airway.
4. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
5. Administer oxygen.
6. Request Advanced Life Support assistance, if appropriate.
7. If the patient is conscious, is able to swallow, and is able to drink without assistance, provide a glucose solution, fruit juice, or non-diet soda by mouth.
    - Do **NOT** give oral solutions to unconscious patients.
    - Do **NOT** give oral solutions to patients with head injuries.
8. Transport.
9. Assess and monitor the Glasgow Coma score. (See Appendix E.)
    - Do **NOT** delay transport.

412

STROKE (CEREBROVASCULAR ACCIDENT)

1. Monitor the airway.
2. Administer oxygen.
3. Place the patient in a head-elevated (semi-Fowler's) or left lateral recumbent (recovery) position as necessary to maintain the airway.
4. Assess for Stroke Patient Criteria. (See Appendix R.)
    - Do **NOT** delay transport.
5. Transport.

413

SEIZURES

1. Protect the patient from injury.
2. Monitor the airway.
   - Do **NOT** force anything into the patient's mouth.
3. Attempt to position the patient to maintain airway patency.
4. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
5. Avoid unnecessary or excessive restraint.
6. Administer oxygen.
7. Monitor breathing for adequacy.
8. Request Advanced Life Support assistance for ongoing seizures at time of patient contact.
9. Treat all injuries as appropriate.
10. Transport.

NOTE: IF POSSIBLE, WITHOUT DELAYING TRANSPORT, OBTAIN THE FOLLOWING INFORMATION:

- **HISTORY OF SEIZURES;**
- **NUMBER OF SEIZURES;**
- **PART OF THE BODY WHERE THE SEIZURE BEGAN, IF WITNESSED;**
- **LENGTH OF THE SEIZURE;**
- **DIRECTION OF DEVIATION OF THE EYES.**

414

POISONING OR DRUG OVERDOSE

1. Monitor the airway.
2. Administer oxygen.
3. Request Advanced Life Support assistance for patients with respiratory distress/failure or altered mental status, or if so directed by Medical Control.
4. Assess for shock and treat, if appropriate. (See Protocol #415.)
5. For Special Considerations, see below.
6. Bring a sample of the substance or the container(s) to the hospital.
7. Transport.

SPECIAL CONSIDERATIONS

INGESTED SUBSTANCES:

1. Do **NOT** induce vomiting.
2. Do **NOT** attempt to neutralize the substance.
3. If patient is potentially unstable or stable, transport after contacting Medical Control with the following information:
   - Name of substance (if prescribed medication, note usual dosage);
   - Amount taken;
   - Time it was taken;
   - Age and weight of patient;
   - Whether the patient has vomited;
   - Whether any antidote has been given.
4. Follow the directions provided by Medical Control.
   - If directed by Medical Control, but **ONLY** if the patient is conscious, is able to swallow, and is able to drink without assistance, dilute the ingested substance with water.
   - If directed by Medical Control, but **ONLY** if the patient is conscious, is able to swallow, and is able to drink without assistance, bind the substance by the administration of Activated Charcoal in 70% Sorbitol solution, as follows:

6 months to 1 year old	5 gm
1 year or older	15 gm
10 years or older	50 gm

INHALED SUBSTANCES:

NOTE: ENSURE THAT THE SCENE IS SAFE TO ENTER.

1. Remove the patient from the contaminated environment.
2. Administer oxygen, especially if carbon monoxide poisoning is suspected.

ENVENOMATIONS:

1. Insect stings:
   - Remove stinger by scraping.
   - Cover with a sterile dressing.
   - Apply cold compresses to the site.
2. Marine:
   - Remove stinging bristles by patting the area with adhesive tape, then wipe with alcohol.
   - Remove stinging spine.
   - Cover with a sterile dressing.

NOTE: TRANSPORT SHOULD NOT BE DELAYED FOR THIS TREATMENT.

3. Snakebite:
   - Keep injection site lower than the level of the heart.
   - Cover with a sterile dressing.
   - Immobilize the area and restrict patient activity.
   - Transport to Venomous Bite Center. (See Appendix H.)

ABSORPTIONS:

NOTE: TAKE PRECAUTIONS TO AV0ID CONTAMINATION OF YOURSELF AND OTHERS.

1. Remove all contaminated clothing.
2. Brush away any dry agents or blot away any excess liquids from the skin.
3. Flush the area with sterile saline, sterile water, or plain water for at least 10 minutes.
4. Bandage any contact burns with a **saline**-**moistened**, sterile dressing.

415

SHOCK

1. Monitor the airway.
2. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
3. Administer oxygen.
4. Control external bleeding.
5. Request Advanced Life Support assistance.
6. Transport.
7. Monitor vital signs.
8. Elevate the legs.
9. Treat all injuries as appropriate.
10. Maintain body temperature.

416

ABDOMINAL PAIN

1. Administer oxygen, if appropriate.
2. If a traumatic cause is suspected, see Protocol #424.
3. Do **NOT** allow the patient to eat or drink.
4. Assess for shock and treat, if appropriate. (See Protocol #415.)
5. Place patient in a position of comfort.
6. Transport.

420

TRAUMATIC CARDIAC ARREST

1. Simultaneously begin transportation of the patient and Basic Cardiac Life Support procedures, as circumstances permit.

NOTE: TRAUMATIC CARDIAC ARREST IS A CRITICAL, LIFE-THREATENING EMERGENCY AND SHOULD BE TRANSPORTED IMMEDIATELY.

2. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
3. Request Advanced Life Support assistance.

NOTE: DO NOT USE THE AUTOMATED EXTERNAL DEFIBRILLATOR FOR TRAUMATIC CARDIAC ARREST.

421

HEAD AND SPINE INJURIES

1. Establish and maintain airway control while stabilizing the cervical spine.

NOTE: DO NOT USE A NASOPHARYNGEAL AIRWAY IN PATIENTS WITH FACIAL INJURIES OR IF SEVERE HEAD INJURY HAS OCCURRED.

2. Utilize the Rapid Takedown technique if the patient is standing.
3. Administer oxygen.
4. Monitor breathing for adequacy.

NOTE: MONITOR BREATHING CONTINUOUSLY. BE ALERT FOR SIGNS OF HYPOXIA AND/OR INCREASING RESPIRATORY DISTRESS.

1. Control external bleeding.
2. Immobilize the patient's head and spine with a rigid collar and appropriate immobilization device.
3. Assess and monitor the Glasgow Coma Score. (See Appendix E.)
   - If the Glasgow Coma Scale (GCS) score is less than 8, ventilate the patient with high concentration oxygen at a rate of 12 breaths per minute for an adult patient, and up to 20 breaths per minute for a pediatric patient.
   - If the Glasgow Coma Scale (GCS) score is less than 8, and active seizures or one or more of the following signs of brain herniation are present, hyperventilate the patient with high concentration oxygen at a rate of 20 breaths per minute for an adult patient and up to 25 breaths per minute for a pediatric patient.
     - Fixed or asymmetric pupils
     - Abnormal flexion or extension (neurologic posturing)
     - Hypertension and bradycardia (Cushing's Reflex)
     - Intermittent apnea (periodic breathing)
     - Further decrease in GCS score of 2 or more points (neurologic deterioration)

NOTE: DO NOT HYPERVENTILATE UNLESS THE ABOVE CRITERIA ARE MET.

4. Assess for shock and treat, if appropriate. (See Protocol #415.)
5. Transport. (See Appendix F.)

422

NECK INJURIES

NOTE:BE ALERT FOR AIRWAY PROBLEMS AND CERVICAL SPINE INJURIES.

1. Monitor the airway.
2. Observe spinal injury precautions. (See Protocol #421.)
3. Administer oxygen.
4. Monitor breathing for adequacy.
5. Control external bleeding.
6. Seal the wound with an **occlusive** dressing.
    - Do **NOT** bandage completely around the neck.
7. Assess for shock and treat, if appropriate. (See Protocol #415.)
8. Transport. (See Appendix F.)

423

CHEST INJURIES

1. Monitor the airway.
2. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
3. Administer oxygen.

NOTE: DO NOT USE A DEMAND VALVE RESUSCITATOR DUE TO THE POSSIBILITY OF CAUSING SEVERE, LIFE-THREATENING COMPLICATIONS.

4. Monitor breathing for adequacy.
5. Control external bleeding.
6. For Special Considerations, see below.
7. Assess for shock and treat, if appropriate. (See Protocol #415.)
8. Position the patient on the affected side unless it will complicate the injury.
9. Transport. (See Appendix F.)

NOTE: DECREASED BREATH SOUNDS AND MUFFLED HEART SOUNDS INDICATE LIFE-THREATENING CHEST INJURIES. THE PATIENT SHOULD BE TRANSPORTED IMMEDIATELY.

SPECIAL CONSIDERATIONS

OPEN CHEST WOUND:

1. Place an occlusive dressing over the wound and tape on three sides.
2. If the patient's condition worsens, remove the occlusive dressing and have the patient fully exhale. Replace and re-tape the occlusive dressing on three sides after exhalation, and request Advanced Life Support assistance.

CLOSED CHEST WOUND:

1. If the patient's condition worsens, request Advanced Life Support assistance.

FLAIL CHEST:

1. Secure bulky dressings with tape over the flail segment.

IMPALED OBJECTS:

1. Do **NOT** remove the object.
2. Support and secure the object with bulky dressings.

424

ABDOMINAL INJURIES

1. Monitor the airway.
2. Administer oxygen.
3. Monitor breathing for adequacy.
4. Control external bleeding.
5. Assess for shock and treat, if appropriate. (See Protocol #415.)
6. For Special Considerations, see below.
7. Transport. (See Appendix F.)

SPECIAL CONSIDERATIONS

EVISCERATION:

1. Do **NOT** replace the protruding organ.
2. Place **saline-moistened**, sterile dressings over the organ.
3. Do **NOT** pour fluid directly onto the wound.
4. Secure dry, bulky dressings over the moistened dressings.
5. An occlusive dressing may be placed as the final layer to maintain body heat.
6. Position the patient appropriately with knees slightly bent.

IMPALED OBJECTS:

1. Do **NOT** remove the object.
2. Support and secure the object with bulky dressings.

425

BONE AND JOINT INJURIES

1. Monitor the airway.
2. Administer oxygen, if appropriate.
3. Control external bleeding.
    - Avoid excessive pressure over injury sites.
4. Assess for shock and treat, if appropriate. (See Protocol #415.)
5. Manually stabilize the injury.
6. Cover protruding bones and associated wounds with dry, sterile dressings.
7. Immobilize the injury.

NOTE: CHECK FOR PERIPHERAL (DISTAL) PULSES, MOTOR FUNCTION, AND SENSATION IN THE INJURED EXTREMITY BEFORE AND AFTER IMMOBILIZATION.

- Angulated long bone deformities should be straightened provided resistance is not felt, into a splintable position.
- Joints above and below the deformity should be immobilized.
- A deformed joint should be immobilized in the position found, unless it cannot be effectively immobilized in this position.
- A traction splint is the splint of choice for all isolated femur fractures.

8. Elevate the injury site, if possible.

NOTE: SPLINTING SHOULD <u>NOT</u> DELAY TRANSPORT OF THE CRITICAL OR UNSTABLE PATIENT.

9. Transport. (See Appendix F.)

426

SOFT TISSUE INJURIES

NOTE:INFECTION CONTROL PRECAUTIONS MUST BE FOLLOWED WHEN MAKING CONTACT WITH THE PATIENT'S BLOOD OR SECRETIONS.

1. Monitor the airway.
2. Administer oxygen, if appropriate.
3. Control external bleeding.
4. Assess for shock and treat, if appropriate. (See Protocol #415.)
5. For Special Considerations, see below.
6. Transport to the nearest appropriate hospital according to the patient's condition. (See Appendices F and H.)

SPECIAL CONSIDERATIONS

IMPALED OBJECT:

1. Do **NOT** remove the object.
2. Support and secure the object with bulky dressings.

NOTE:IF THE OBJECT IS IMPALED IN THE CHEEK AND IS COMPROMISING THE AIRWAY, REMOVE IT AND BANDAGE BOTH SIDES OF THE WOUND.

AMPUTATED OR COMPLETELY AVULSED TISSUE:

1. Wrap the part in **saline-moistened**, **sterile** dressings.
   - Do **NOT** soak.
2. Place the part into a plastic bag and seal the bag.
3. Label the bag with the patient's name and time of injury.
4. Place the bag in ice, or a cooled area.
5. Protect the stump with a **saline-moistened**, sterile dressing.

NOTE:AVOID FREEZING THE TISSUE. DO NOT USE DRY ICE.

427

EYE INJURIES

1. Monitor the airway.
2. Administer oxygen, if appropriate.
3. Control external bleeding.
4. Do **NOT** apply pressure to the globe of the eye.
5. Remove contact lenses, if possible.
6. For Special Considerations, see below.
7. Bandage both eyes loosely.
8. Transport. (See Appendix F.)

SPECIAL CONSIDERATIONS

FOREIGN OBJECT:

1. Immediately and continuously flush the affected eye(s) with Normal Saline (0.9% NS) for a minimum of 20 minutes, continuing therapy enroute to the hospital.

AVULSED EYE:

1. Do **NOT** attempt to replace the eye back into the socket.
2. Wrap the eye with **saline-moistened**, sterile dressings.
3. Stabilize this with a paper cup or similar object.

428

BURNS

1. Monitor the airway.
2. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
3. Administer oxygen.

NOTE:PATIENTS WITH INHALATION INJURY SHOULD RECEIVE HUMIDIFIED OXYGEN (IF AVAILABLE) AND REQUIRE ADVANCED LIFE SUPPORT ASSISTANCE.

4. Stop the burning process.
5. Prevent contamination of the wound. Avoid making contact with non-sterile materials if possible. Do not remove clothing adherent to the wound.
6. Monitor breathing for adequacy.
7. Assess for shock and treat, if appropriate. (See Protocol #415.)
8. For Special Considerations, see below.
9. Calculate the percentage and degree of affected areas. (See Appendix G.)
10. Cover the affected areas with **saline-moistened**, sterile dressings, then wrap in dry, sterile sheets.
11. Maintain body temperature.

NOTE:LARGE BODY SURFACE AREA INVOLVEMENT MAY LEAD TO RAPID HEAT LOSS IN THE BURN PATIENT.

12. Transport. (See Appendices G and H.)

SPECIAL CONSIDERATIONS

THERMAL BURNS:

1. Cool hot or smoldering skin (up to 20% of the body surface area at a time) with cool water, Normal Saline (0.9% NS), or **saline-moistened**, sterile dressings.

CHEMICAL BURNS:

NOTE:TAKE PRECAUTIONS TO AVOID CONTAMINATION OF YOURSELF AND OTHERS.

1. Obtain the name of the product, if possible.
2. Remove any contaminated clothing or personal articles.
3. Brush dry agents off the skin, then flush with water for at least 10 minutes.
4. Blot any excessive liquids from the skin, then flush liquid chemical agents with water:
   a. From the skin for at least 10 minutes.
   b. From the eyes for at least 20 minutes.

ELECTRICAL BURNS:

NOTE:BE ALERT FOR CERVICAL SPINE AND OTHER SKELETAL INJURIES.

1. Begin Basic Cardiac Life Support procedures, if appropriate. (See Protocol #403.)
2. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
3. Request Advanced Life Support assistance.
4. Locate and bandage the **obvious** entrance and exit wounds.
5. Treat skeletal injuries, if appropriate. (See Protocol #425.)

430

EMOTIONALLY DISTURBED PATIENT

NOTE: EMOTIONALLY DISTURBED PATIENTS MUST BE PRESUMED TO HAVE AN UNDERLYING MEDICAL OR TRAUMATIC CONDITION CAUSING AN ALTERED MENTAL STATUS.

ASSESS SUCH PATIENTS FOR AN UNDERLYING MEDICAL OR TRAUMATIC CONDITION CAUSING AN ALTERED MENTAL STATUS AND TREAT AS NECESSARY.

1. Assess the situation for potential or actual danger and establish a safe zone, if necessary.

NOTE: ALL SUICIDAL OR VIOLENT THREATS OR GESTURES MUST BE TAKEN SERIOUSLY. THESE PATIENTS SHOULD BE IN POLICE CUSTODY IF THEY POSE A DANGER TO THEMSELVES AND/OR OTHERS.

2. If an underlying medical or traumatic condition causing an altered mental status is not apparent; the patient is fully conscious, alert, and able to communicate; and an emotional disturbance is suspected, proceed as follows:
   - Request police assistance, if appropriate.
   - Open communications with the patient.
   - Attempt to determine the cause of the immediate crisis.
   - Attempt to obtain a past medical history.
   - Document the exact nature of the problem, including the patient's own words.
   - If, in the judgment of the EMT/AEMT, the patient requires and is refusing treatment and the patient's judgment may be impaired, contact Medical Control.
   - The EMT/AEMT may participate in restraining a patient if a police officer requests assistance or when it becomes necessary for self-protection.

NOTE: ONLY THE AMOUNT OF FORCE REQUIRED TO EFFECTIVELY RESTRAIN THE PATIENT MAY BE USED.

3. Transport.
4. Assess and monitor Glasgow Coma score. (See Appendix E.)
   - Do **NOT** delay transport.

431

HEAT-RELATED EMERGENCIES

1. Cool the environment or move the patient to a cooler environment.
2. Remove excessive clothing.
3. Administer oxygen.
4. Restrict physical activity.
5. Assess for shock and treat, if appropriate. (See Protocol #415.)
6. For Special Considerations, see below.
7. Transport.

SPECIAL CONSIDERATIONS

HEAT CRAMPS:

Provide water or Normal Saline (0.9% NS) by mouth.

HEAT EXHAUSTION:

Provide water or Normal Saline (0.9% NS) by mouth if the patient is conscious, has a gag reflex, and is able to drink without assistance.

HEAT STROKE:

Monitor the airway.

Cool the patient **rapidly**.

NOTE: DO NOT LOWER BODY TEMPERATURE SO AS TO PRODUCE SHIVERING. THE COOLING OF THE PATIENT SHOULD NOT DELAY TRANSPORT.

432

COLD-RELATED EMERGENCIES

1. Warm the environment or move the patient to a warmer environment.
2. Prevent further loss of body heat.
3. Do **NOT** allow the patient to smoke or drink either alcohol or caffeinated beverages.
4. For Special Considerations, see below.
5. Transport.

SPECIAL CONSIDERATIONS

FROSTNIP, FROSTBITE, FREEZING (Local):

1. Remove clothing from the affected area.
2. Wrap the area in dry, bulky dressings.
3. Do **NOT** rub the area or rupture blisters.

HYPOTHERMIA (General):

1. Monitor the airway.
2. Begin Basic Cardiac Life Support procedures, if appropriate. (See Protocol #403.)

NOTE: VITAL SIGNS MAY BE EXTREMELY DEPRESSED. ALLOW AT LEAST 15 SECONDS TO CHECK FOR A CAROTID PULSE. HYPOTHERMIC PATIENTS REMAIN VIABLE FOR A LONGER PERIOD OF TIME. THEREFORE, CPR SHOULD BE INITIATED ON ALL PULSELESS AND APNEIC HYPOTHERMIC PATIENTS.

3. Administer oxygen.
4. Monitor breathing for adequacy.
5. Gently remove any wet clothing.
6. Wrap the patient in dry blankets.

NOTE: AVOID ROUGH HANDLING OF THE HYPOTHERMIC PATIENT SO AS TO REDUCE THE RISK OF INDUCING CARDIAC ARREST.

7. If the patient is conscious, is able to swallow, and is able to drink without assistance, give warm liquids slowly by mouth.
8. If the patient has an altered mental status, request Advanced Life Support assistance.

433

DROWNING OR NEAR DROWNING

1. Remove the patient from the water.
2. Observe spinal injury precautions, if appropriate. (See Protocol #421.)
3. Monitor the airway.
4. Assist ventilations, if appropriate. (See Protocol #401.)
5. Begin Basic Cardiac Life Support procedures, if appropriate. (See Protocol #403.)

NOTE: HYPOTHERMIC PATIENTS REMAIN VIABLE FOR A LONGER PERIOD OF TIME. THEREFORE, CPR SHOULD BE INITIATED ON ALL PULSELESS AND APNEIC HYPOTHERMIC PATIENTS.

6. Administer oxygen.
7. Monitor breathing for adequacy.
8. Assess for shock and treat, if appropriate. (See Protocol #415.)
9. Transport.

NOTE: IN CASES OF COLD WATER DROWNING (WATER TEMPERATURE BELOW 70° F), TREAT FOR HYPOTHERMIA. (SEE PROTOCOL #432.)

434

DECOMPRESSION SICKNESS

1. Monitor the airway.
2. Administer oxygen.
3. Place the patient in a **LEFT** lateral recumbent position.

NOTE:IF POSSIBLE, OBTAIN THE FOLLOWING INFORMATION:

- **RECENT DIVE HISTORY;**
- **THE MAXIMUM DEPTH OF THE DIVE(S);**
- **THE TOTAL TIME SPENT UNDERWATER;**
- **THE MIXTURE OF COMPRESSED GASES USED.**

4. Transport the patient and companion divers via ground transportation to the nearest appropriate hospital. (See Appendix H.)

440

OBSTETRIC EMERGENCIES

1. Monitor the airway.
2. Administer oxygen.
3. Place the patient in a LEFT lateral recumbent position.
4. If the patient is immobilized, elevate the right side of the long board a few inches.
5. Assess for shock and treat, if appropriate. (See Protocol #415.)

NOTE: CONSIDER SUPINE HYPOTENSION SYNDROME AS A CAUSE OF SHOCK.

For Special Considerations, request Advanced Life Support assistance, and see below.

Transport.

SPECIAL CONSIDERATIONS

HYPERTENSION:

- Keep the mother calm, avoid loud noises, and transport with dim lighting in the patient compartment of the ambulance.

SEIZURES:

- If seizures occur, see Protocol #413.

IMMINENT DELIVERY

- **If delivery has begun, refer to protocol #413**

POST-PARTUM HEMORRHAGE:

- Massage the mother's abdomen over the uterus.
- Place a sanitary napkin over the vaginal opening.

441

EMERGENCY CHILDBIRTH

1. Assess the mother for shock and treat, if appropriate. (See Protocol #415.)
2. If the mother is in active labor, perform a visual inspection of the perineum for bulging or crowning.
3. If delivery has begun, proceed as follows:
   - Request Advanced Life Support assistance.
4. If any of the following are present, refer to the Special Conditions section:
   - Prolapsed umbilical cord (cord protruding through vaginal opening)
   - Umbilical cord (cord wrapped around the newly born's neck)
   - Breech (buttocks) presentation
   - Limb (extremity) presentation
   - Multiple births
   - Premature births
   - Amniotic sac not ruptured
   - Amniotic fluid that is meconium stained

NOTE: ADVANCED LIFE SUPPORT ASSISTANCE MUST BE REQUESTED FOR PREMATURE OR MULTIPLE BIRTHS, OR IF THE AMNIOTIC FLUID IS MECONIUM STAINED.

5. Apply gentle pressure against the newly born's head to prevent tearing of the perineum.
   - Do **NOT** apply pressure to the soft spots (fontanelles).
6. As the head presents, clear the airway of secretions, as follows:
   - First suction the mouth, inserting the bulb syringe, no more than 1½ inches, then the nose, inserting the bulb syringe no more than ½ inch. Depress the bulb syringe prior to insertion into the newly born's mouth and nose.

NOTE: SUCTIONING IS CRITICAL.

7. Support the head and thorax as the newly born delivers.
   - Momentarily position the head lower than the body to allow for drainage. Repeat suctioning as necessary prior to spontaneous or stimulated respirations.
8. Thoroughly but rapidly dry the newborn with a clean, dry towel.
9. Monitor the newly born's airway.
   - To stimulate breathing, first rub the lower back, then gently snap the soles of the feet.

NOTE: SPONTANEOUS RESPIRATIONS SHOULD BEGIN WITHIN 30 SECONDS AFTER BIRTH.

10. Resuscitate if necessary. (See Protocol #443.)
11. Place the first clamp 8 to 10 inches from the newly born and the second clamp approximately 4 finger widths from the newly born. Cut between the clamps and immediately check both ends for bleeding.
12. If continuous bleeding is seen from either end of the cord, leave the clamps already applied and add a second clamp to the end that is bleeding.
13. Cover the newly born with a clean, dry towel or blanket, then wrap in a silver swaddler, exposing only the newly born's face.

NOTE: NEWLY BORNS ARE SUBJECT TO RAPID HEAT LOSS AND MUST BE KEPT WARM AND DRY.

- Do **NOT** delay transport waiting for the placenta to deliver.

14. For Special Considerations, **administer oxygen to the mother**, and see below.
15. Re-assess the mother for shock and treat, if appropriate. (See Protocol #415.) If postpartum hemorrhage occurs, see Protocol #440.
16. For care of the newly born, see Protocol #442.
17. Transport.

NOTE: IF MISCARRIAGE OR STILLBIRTH OCCURS, BRING ALL EXPELLED MATERIAL TO THE HOSPITAL WITH THE MOTHER.

SPECIAL CONSIDERATIONS

NOTE: AN ABNORMAL DELIVERY SHOULD BE TREATED AS AN EMERGENCY WITH TRANSPORT BEING A PRIORITY WHILE PROVIDING APPROPRIATE CARE.

ABNORMAL PRESENTATION:

Breech Presentation:

- Support the thorax of the newly born as it delivers.

NOTE: A FULL DELIVERY MAY OCCUR.

- If the head does not deliver immediately, place sterile, gloved fingers between the newly born's face and the wall of the birth canal to establish an air passageway. This position must be maintained until the head delivers.

Limb Presentation:

- Elevate the mother's hips and legs.

Prolapsed Cord:

- Elevate the mother's hips and legs.
- If the cord is not pulsatile, place sterile, gloved fingers into the birth canal and push the head back 1 to 2 inches towards the cervix until the cord begins to pulsate.
- Wrap **saline-moistened**, sterile dressings around the cord.

NOTE: DO NOT ATTEMPT TO INSERT THE CORD BACK INTO THE UTERUS. THE CORD SHOULD BE CONTINUOUSLY MONITORED FOR THE PRESENCE OF A PULSE.

COMPLICATIONS DURING BIRTH:

Cord Around the Neck:

- If the cord is loose, gently slip the cord over the newly born's head.
- If this is not possible, immediately place 2 clamps on the cord and cut between them.

Amniotic Sac Not Ruptured:

- Immediately remove the sac from around the face using sterile, gloved fingers only.

Wedged Shoulders:

- Guide the head downward to aid in the delivery of the upper shoulder.

MULTIPLE BIRTHS:

- Clamp and cut the umbilical cord of the first newly born prior to the next birth.
- If the second birth does not occur within 10 minutes, begin transport.

442

CARE OF THE NEWLY BORN

For newly borns, minutes to hours old

1. Thoroughly but rapidly dry the newly born with a clean, dry towel.
2. Monitor the newly born's airway.
3. Suction the mouth and nose using a bulb syringe.
4. Administer oxygen to the newly born.
5. Monitor breathing for adequacy.

NOTE: IF THE NEWLY BORN **IS UNRESPONSIVE, LIMP, OR HAS:**

- **PERSISTENT CENTRAL CYANOSIS (LONGER THAN 15 TO 30 SECONDS);**
- **RESPIRATORY RATE IS LESS THAN 30 BREATHS PER MINUTE (HYPOVENTILATION); OR,**
- **HEART RATE IS LESS THAN 100 BEATS PER MINUTE (BRADYCARDIA) SEE PROTOCOL #443.**

6. Assess for shock and treat, if appropriate. (See Protocol #458.)
7. Monitor the umbilical cord for bleeding.
8. Cover the newly born with a clean, dry towel or blanket, then wrap in a silver swaddler, exposing only the newly born's face.
9. Determine the Apgar Score at 1 and 5 minutes after delivery. (See Appendix K.)

NOTE: DO NOT DELAY TRANSPORT OR RESUSCITATION IN ORDER TO OBTAIN AN APGAR SCORE.

10. Transport, keeping the newly born warm.

NOTE: NEWLY BORN INFANTS ARE SUBJECT TO RAPID HEAT LOSS AND MUST BE KEPT WARM AND DRY.

443

NEWLY BORN RESUSCITATION

For newly born infants with:

- Persistent central cyanosis (longer than 15 to 30 seconds);
- Respiratory rate less than 30 breaths per minute (hypoventilation);
- Heart rate less than 100 beats per minute (bradycardia); **OR**
- Cardiac arrest (absence of breathing and pulse):
  1. Initiate newly born resuscitation procedures. (See guidelines below.)
  2. Request Advanced Life Support assistance.
  3. Transport, keeping the newly born warm.

GUIDELINES FOR NEWLY BORN RESUSCITATION

NOTE: CARDIOPULMONARY RESUSCITATION IN A NEWLY BORN IS PERFORMED UTILIZING CHEST COMPRESSIONS WITH INTERPOSED VENTILATIONS IN A RATIO OF 3:1 AT A RATE OF 120 (90 COMPRESSIONS, 30 VENTILATIONS) PER MINUTE.

If the **newly born** has:

- Persistent Central Cyanosis;
- A Respiratory Rate Less Than 30 Breaths Per Minute; **OR**
- A Heart Rate Between 60 And 100 Beats Per Minute:
  1. Assist ventilation at a rate of 30 to 60 breaths per minute.
  2. Switch to high concentration mask or “blow by” oxygen once the respiratory rate is greater than 30 breaths per minute, the heart rate is greater than 120 beats per minute, and central cyanosis disappears.

If the newly born has:

- A Heart Rate Less Than 60 Beats Per Minute; **OR**
- Cardiac Arrest:
  1. Start CPR immediately.
  2. Stop CPR and begin assisted ventilation at a rate of 30 to 60 breaths per minute once the heart rate is greater than 100 beats per minute.
  3. Switch to high concentration mask or “blow by” oxygen once the heart rate is greater than 120 beats per minute, the respiratory rate is greater than 30 breaths per minute, and central cyanosis disappears.

450

PEDIATRIC RESPIRATORY DISTRESS/FAILURE

NOTE: RESPIRATORY DISTRESS IN A CHILD IS CHARACTERIZED BY INCREASED RESPIRATORY EFFORT WITHOUT CENTRAL CYANOSIS, I.E., ANXIETY, TACHYPNEA, NASAL FLARING, AND INTERCOSTAL RETRACTIONS.

RESPIRATORY FAILURE IN A CHILD IS CHARACTERIZED BY INEFFECTIVE RESPIRATORY EFFORT WITH CENTRAL CYANOSIS, I.E., AGITATION OR LETHARGY, SEVERE DYSPNEA OR LABORED BREATHING, BOBBING OR GRUNTING, AND MARKED INTERCOSTAL AND PARASTERNAL RETRACTIONS.

BRADYCARDIA IS AN OMINOUS SIGN THAT INDICATES HYPOXIC CARDIAC ARREST MAY BE IMMINENT.

Monitor the airway.

If an obstructed airway is suspected, see Protocol #451.

If croup or epiglottitis is suspected, see Protocol #452.

IF RESPIRATORY **DISTRESS** IS PRESENT:

Administer oxygen and allow patient to maintain a comfortable, upright position.

NOTE: HIGH CONCENTRATION OXYGEN SHOULD ALWAYS BE USED IN PEDIATRIC PATIENTS.

DO NOT ALLOW THE MASK TO PRESS AGAINST THE EYES.

IF RESPIRATORY **FAILURE** IS PRESENT:

Assist ventilations at a rate of 20 breaths per minute.

NOTE: DO NOT USE A DEMAND VALVE RESUSCITATOR DUE TO THE POSSIBILITY OF CAUSING SEVERE LIFE THREATENING COMPLICATIONS.

CHEST RISE IS THE BEST INDICATION OF ADEQUATE VENTILATION IN THE PEDIATRIC PATIENT.

Request Advanced Life Support assistance.

Monitor breathing for adequacy.

Transport, keeping the child warm.

451

PEDIATRIC OBSTRUCTED AIRWAY

IF THE PATIENT IS CONSCIOUS AND **CAN** BREATHE, COUGH, SPEAK, OR CRY:

Administer oxygen.

NOTE:AVOID AGITATING THE PATIENT.

IF THE PATIENT IS UNCONSCIOUS OR **CANNOT** BREATHE, COUGH, SPEAK, OR CRY:

Perform obstructed airway clearing maneuvers appropriate for age.

NOTE:IF AN ENLARGED EPIGLOTTIS IS SEEN WHEN ATTEMPTING TO CLEAR A FOREIGN BODY, SEE PROTOCOL #452.

Request Advanced Life Support assistance.

Transport, keeping the child warm.

Continue obstructed airway maneuvers until the obstruction is relieved.

NOTE:THE PATIENT MUST BE TAKEN TO THE HOSPITAL FOR EVALUATION EVEN IF THE AIRWAY IS CLEARED.

IF AIRWAY OBSTRUCTION IS RELIEVED:

Monitor the airway.

Begin Basic Cardiac Life Support procedures, if appropriate. (See Protocol #403.)

Administer oxygen.

Monitor breathing for adequacy.

Continue transport, keeping the child warm.

452

PEDIATRIC CROUP/EPIGLOTTITIS

NOTE: CROUP SHOULD BE SUSPECTED IN A CHILD WITH STRIDOR, RETRACTIONS, BARKING COUGH, NORMAL OR SLIGHTLY ELEVATED TEMPERATURE, AND A HISTORY OF UPPER RESPIRATORY INFECTION.

EPIGLOTTITIS SHOULD BE SUSPECTED IN A CHILD WITH STRIDOR, RETRACTIONS, MUFFLED VOICE, HIGH FEVER, AND DROOLING.

IF THE CHILD IS CONSCIOUS:

Administer oxygen.

NOTE: PEDIATRIC PATIENTS WITH CROUP/EPIGLOTTITIS SHOULD RECEIVE HUMIDIFIED OXYGEN (IF AVAILABLE).

Request Advanced Life Support assistance.

Monitor breathing for adequacy.

Transport in a sitting position, keeping the child warm. When feasible, allow a parent to accompany the child in the patient compartment.

NOTE: AVOID AGITATING THE PATIENT. DO NOT EXAMINE OROPHARYNX. ALLOW SALIVA TO DRAIN FROM THE MOUTH. DO NOT PLACE PATIENT IN A SUPINE POSITION.

IF THE CHILD IS UNCONSCIOUS:

Assist ventilations.

NOTE: HIGH PRESSURE BAG-VALVE-MASK, MOUTH-TO-MOUTH, OR MOUTH-TO-MASK VENTILATION MAY BE REQUIRED.

Request Advanced Life Support assistance.

Monitor breathing for adequacy.

Transport, keeping the child warm.

453

PEDIATRIC NON-TRAUMATIC CARDIAC ARREST AND SEVERE BRADYCARDIA

1. For infants and children in non-traumatic cardiac arrest, or infants and children under 9 years of age with a heart rate less than 60 beats per minute (severe bradycardia) and signs of inadequate central (proximal) perfusion (decompensated shock):
2. Initiate Basic Cardiac Life Support procedures. (For infants and children, see guidelines below.)
3. Request Advanced Life Support assistance.
4. When available, pediatric AED-capable pads and cables shall be used for all pediatric patients aged 1 – 8 years of age.
5. If Pediatric AED-capable pads and cables are not available, the adult AED and adult AED-capable pads and cables shall be used for all pediatric patients aged 1 year and older.

NOTE: AUTOMATED EXTERNAL DEFIBRILLATION SHOULD NOT BE DELAYED OR WITHHELD FOR ANY REASON IN PATIENTS 1 YEAR OF AGE OR OLDER WHO PRESENT WITH NON-TRAUMATIC CARDIAC ARREST.

DO NOT USE THE PEDIATRIC-MODIFIED AUTOMATED DEFIBRILLATOR FOR PEDIATRIC PATIENTS UNDER 1 YEAR OF AGE.

6. Transport, keeping the child warm.

GUIDELINES FOR INFANT AND CHILD RESUSCITATION

NOTE:TWO-RESCUER CARDIOPULMONARY RESUSCITATION IN AN INFANT OR CHILD IS PERFORMED AT A RATE OF 100 CHEST COMPRESSIONS PER MINUTE, INTERPOSING VENTILATIONS AT A RATIO OF 15:2.

If The Infant Or Child Has A Heart Rate Less Than 60 Beats Per Minute:

- Assist ventilation at a rate of 20 breaths per minute.
- Start CPR if the heart rate is not rapidly increasing following 30 seconds of assisted ventilation.
- Stop CPR and resume assisted ventilation at a rate of 20 breaths per minute once the heart rate is greater than 60 beats per minute and rapidly increasing.
- Switch to high concentration mask or “blow by” oxygen once the heart rate is greater than 100 beats per minute, the respiratory rate is greater than 20 breaths per minute, and central cyanosis disappears.

If The Infant Or Child Is in Cardiac Arrest:

- Start CPR immediately.
- Stop CPR and begin assisted ventilation at a rate of 20 breaths per minute once the heart rate is greater than 60 beats per minute and rapidly increasing.

- Switch to high concentration mask or “blow by” oxygen once the heart rate is greater than 100 beats per minute, the respiratory rate is greater than 20 breaths per minute, and central cyanosis disappears.

MANDATORY QUALITY ASSURANCE COMPONENT

FOR EVERY APPLICATION OF AN AED ON A PEDIATRIC PATIENT (EVEN IF NO SHOCK IS DELIVERED), THE ACR/PCR DOCUMENTATION MUST BE REVIEWED BY THE SERVICE MEDICAL DIRECTOR, WHO IS THEN RESPONSIBLE FOR FORWARDING A COPY OF THE ACR/PCR TO THE NYC REMAC FOR SYSTEM-WIDE QA PURPOSES. THIS QA COMPONENT IS EFFECTIVE IMMEDIATELY.

FOR THE PURPOSES OF PATIENT CONFIDENTIALITY, COPIES OF THE PCR/ACR CAN BE MAILED TO: THE REGIONAL EMS COUNCIL OF NYC, 475 RIVERSIDE DRIVE, SUITE 1929, NEW YORK, NEW YORK 10115. PLEASE LABEL THE ENVELOP “CONFIDENTIAL QA”.

455
PEDIATRIC ANAPHYLACTIC REACTION

NOTE: ANAPHYLAXIS CAN BE A POTENTIALLY LIFE THREATENING SITUATION MOST OFTEN ASSOCIATED WITH A HISTORY OF EXPOSURE TO AN INCITING AGENT/ALLERGEN (BEE STING OR OTHER INSECT VENOM, MEDICATIONS/DRUGS, OR FOODS SUCH AS PEANUTS, SEAFOOD, ETC.). THE PRESENCE OF RESPIRATORY DISTRESS (UPPER AIRWAY OBSTRUCTION [STRIDOR], LOWER AIRWAY DISEASE/SEVERE BRONCHOSPASM [WHEEZING]) AND/OR CARDIOVASCULAR COLLAPSE/HYPOTENSIVE SHOCK CHARACTERIZE THE CLINICAL FINDINGS THAT AUTHORIZE AND REQUIRE TREATMENT ACCORDING TO THIS PROTOCOL. THIS PROTOCOL APPLIES TO PATIENTS UNDER 9 YEARS OLD OR PATIENTS WEIGHING LESS THAN 30 KG (66 LBS). FOR PATIENTS 9 YEARS OF AGE OR OLDER, OR OVER 30 KG (66 LBS) REFER TO THE ADULT ANAPHYLAXIS PROTOCOL (#410).

2. Determine that the patient's history includes a history of anaphylaxis, severe allergic reaction and/or recent exposure to an allergen or inciting agent.

NOTE: REQUEST ALS ASSISTANCE, IF AVAILALE. DO NOT DELAY TRANSPORT TO THE HOSPITAL

2. Administer high concentration oxygen.
3. Assess the cardiac and respiratory status of the patient.
   a. If **both** the cardiac and respiratory status of the patient are normal, initiate transport.
   b. If **either** the cardiac or respiratory status of the patient is **abnormal**, proceed as follows:
      i. If the patient is having severe respiratory distress **or** shock **and** has been prescribed a pediatric (0.15 mg) Epinephrine auto-injector, assist the patient in administering the Epinephrine. If the patient's auto-injector is not available or expired, and the EMS agency carries a pediatric (0.15 mg) Epinephrine auto-injector, administer the Epinephrine as authorized by the agency's Medical Director.
      ii. If the patient has not been prescribed a pediatric (0.15 mg) Epinephrine auto-injector, begin transport and contact On-Line Medical Control for authorization to administer a pediatric (0.15 mg) Epinephrine auto-injector, if available.

NOTE: IN THE EVENT THAT YOU ARE UNABLE TO MAKE CONTACT WITH ON-LINE MEDICAL CONTROL (RADIO FAILURE, NO COMMUNICATIONS), YOU MAY ADMINISTER THE EPINEPHRINE AUTOINJECTOR (0.15 MG) IF INDICATED. THE INCIDENT MUST BE REPORTED TO ON-LINE MEDICAL CONTROL AND YOUR AGENCY'S MEDICAL DIRECTOR AS SOON AS POSSIBLE

      iii. Contact On-Line Medical Control for authorization to administer a second administration of a pediatric (0.15 mg) Epinephrine auto-injector, if needed.

iv. Refer immediately to the REMAC Prehospital Treatment Protocol for Respiratory Distress/Failure (#450), Obstructed Airway (#451), or Shock (#458) as appropriate.

4. If cardiac arrest occurs, refer immediately to the REMAC Prehospital Treatment Protocol for Non-Traumatic Cardiac Arrest (#453)

458

PEDIATRIC SHOCK

NOTE: SHOCK IN THE CHILD IS CHARACTERIZED BY SIGNS OF INADEQUATE PERIPHERAL (DISTAL) PERFUSION, WHICH MAY INCLUDE ALTERED MENTAL STATUS; TACHYCARDIA; PALLOR; COOL, CYANOTIC LOWER EXTREMITIES; MOTTLING; DELAYED CAPILLARY REFILL; WEAK OR ABSENT PERIPHERAL (DISTAL) PULSES.

THE DEFINITION OF SHOCK IN THE CHILD DOES NOT DEPEND UPON BLOOD PRESSURE.

Monitor the airway.

Observe spinal injury precautions, if appropriate. (See Protocol #421.).

Administer oxygen.

NOTE: HIGH CONCENTRATION OXYGEN SHOULD <u>ALWAYS</u> BE USED IN PEDIATRIC PATIENTS.

If patient has an altered mental status, the patient must be ventilated at the rate of at least 25 breaths per minute.

Control external bleeding.

Request Advanced Life Support assistance.

Transport, keeping the child warm.

Do **NOT** delay transport.

Elevate the legs.

Treat all injuries as appropriate.