

Diabetic Emergencies

Diabetes is a disease of antiquity. It affects approximately two percent of the American population and frequently requires EMS intervention. The disease parameters range from Hypoglycemia to Hyperglycemia. The etiology requires glucose to enter the brain at a constant rate and this is accomplished through the transport mediator Insulin. Insulin is a product of the pancreas and is secreted from the islets of Langerhans. The brain cannot function without glucose and therefore becomes an integral part of mortality.

MANAGEMENT:

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM, or 100% BVM .
3. Assess vital signs and blood glucose
4. Establish an IV of .9 % NaCl at a TKO rate unless the patient is found to be hyperglycemic in which a 500 cc bolus should be given.
5. If the blood glucose level is less than 60 Vol. %, or below the patient is considered to be hypoglycemic and the following treatment should be initiated;
 - A. If the patient is conscious and has a patent airway, one tube of Insta-Glucose should be considered.
 - B. 25 grams of 50% Dextrose should be administered IV if the patient is unresponsive.
 - C. If an IV is unable to be established 1.0 Mg's of Glucagon should be administered IM
6. Monitor EKG and document
7. Contact appropriate medical facility and transport

Shock

Shock is a progressive, but gradual collapse of organ function due to circulatory failure. It is a group of circulatory syndromes resulting in generalized cellular hypoxia. Important physiological changes occur in the nervous, respiratory, renal, and gastrointestinal systems, as well as, in intermediary metabolism. Shock may arise due to: failure of the preload, as in hypovolemia, myocardial contractility as in cardiogenic shock, and afterload as in septic shock or any combination of these including anaphylactic, traumatic, and neurogenic shock. There are three stages of shock and early detection is paramount in mortality and morbidity.

1. Compensated shock causes cardiac output to decrease, activating hemostatic compensating mechanisms, which successfully restore cardiac output and tissue perfusion to the organs.
2. Uncompensated shock means that the compensatory mechanisms are failing and are unable to perfuse the vital organs. If untreated hypo-perfusion will lead to multi-systems organ failure.
3. Irreversible stage is manifested by severe circulatory failure and is immutable. Cellular destruction is so severe death is inevitable and specific shocks' are indistinguishable.

Intervention is based on the specific etiology of the shock and should be considered, however, treatment should always be aggressive since signs and symptoms are late indicators. Classic signs and symptoms include altered mentation, tachycardia, hypotension, decreased pulse pressure, decreased capillary refill, cool clammy skin that can be pale, or mottled with cyanosis, diaphoresis, nausea and vomiting, respiratory signs including tachypnea, increasing congestion and central cyanosis.

MANAGEMENT;

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM, or 100% BVM .
3. Establish one to two large bore IV's with .9% NACL and run to maintain a Systolic BP of at least >90 mmHg.
4. Provide a fluid bolus of 500cc in hypovolemic or anaphylactic shock
(This should cautiously be given for patients with known pulmonary history or the presents of pulmonary congestion). (In cardiogenic shock Dopamine can be administer at 5 mcg/kg/min up to 20 mcg/kg/min)
5. Monitor EKG, document, and treat dysrrhythmia's according to AHA guidelines.
6. Package the patient with a LSB and C-collar if trauma is suspected and transport to the closest facility.

Environmental Emergencies-Hyperthermia

Environmental emergencies encompass two different etiologies; hypothermia and hyperthermia and will be split to thoroughly discuss both. Hyperthermia is exposure to heat extremes, especially accompanied by high humidity is common in Kansas in the summer months and may be manifested as heat cramps, heat exhaustion, and heat stroke. The longer the body remains hyperthermic the greater the damage and consequent increase in morbidity and mortality. Heat cramps are a buildup of lactic acid and will usually dissipate with rest and are not considered an emergency. The two realms of concern are heat exhaustion and heat stroke. Heat exhaustion is a derangement of body function encountered when the body temperature is elevated usually in the 102.2 – 105.8 range. Heat stroke is manifested by hot, red and dry skin. The body has lost its ability to perspire. The typical victim is usually unacclimated and has worked in the heat for several days. The very young and elderly are at great risk for heat related illness. Also the obese person has a greater risk since the heat loss is inversely proportionate to body weight and size and adipose tissue serves as an insulator.

Heat exhaustion

Signs and symptoms include; irritability, cool clammy skin (except with heat stroke the skin will be hot and dry) headache, flu like symptoms, muscle cramps, intact mental although minor aberrations may be present, euphoria, nausea, vomiting, diarrhea and thirst.

1. Primary survey and treat severe signs and symptoms
2. Move patient to a cool environment and immediately start the cooling process.
3. Remove clothing; apply ice packs over the neck, axillae, and inguinal areas.
4. Establish large bore IV's of .9% NACL and infuse 500cc's bolus if patient is not congested. If a heat stroke is suspected contact the receiving facility for further orders.
5. Contact the receiving facility for medical control and transport.
(note; heat stroke is a major emergency and should be aggressively treated.)

Heat Stroke

Signs and symptoms included; dizziness, malaise, coma, tachycardia, muscle cramps, thirst, flushed skin without sweating, hyperventilation, pulmonary edema, headache, decreased CNS perfusion, fever, and hypotension.

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM
3. Move patient to a cool environment and initiate rapid cooling
4. Remove clothing and place ice packs on neck, axillia, and inguinal areas.
5. Establish large bore IV's with .9% NACL at TKO rate unless the patient is hypotensive.
6. Transport to the appropriate facility.

This form supersedes no other

KBEMS Form 30 067
090803

Environmental Emergencies-Hypothermia

Hypothermia results from prolonged exposure to low temperatures, especially when conditions are wet and windy. Hypothermia is defined as a core body temperature of less than 35 degrees celcius or 97 degrees fahrenheit. Hypothermia can be divided into three categories; mild, moderate and severe. The elderly, poor health, children and alcoholics are more susceptible to and at risk.

Signs and symptoms include decrease in CNS, shivering, bradycardia, ataxia, poor coordination, decreased perfusion, arrhythmias, coma, apnea and cardiac arrest.

HYPOTHERMIA

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM
3. Remove from the environment and initiate re-warming (avoid re-exposure)
4. Treat patient very gently, rough handling can precipitate V-fib
5. Monitor EKG and treat arrhythmias according to AHA guidelines.
6. Establish IV's with .9%NACL
7. Contact appropriate medical facility for further orders that may include; Dextrose, Narcan, Sodium Bicarbonate and anti-arrhythmias.

Chest Pain

Chest pain is one of the most frequently run call. Chest pain and its equivalents (arm, neck, back, or jaw pressure) are the predominant symptoms in chronic stable angina, unstable angina, variant angina and acute myocardial infarction. The magnitude of cardiovascular disease as a national problem is evidenced by the fact that coronary heart disease continues to be one of the most serious manifestations of coronary artery occlusion disease – acute myocardial infarction. A key priority in treatment of the suspected myocardial insult is efficient scene time and transport to a tertiary care facility. Time is muscle.

Treatment;

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. Administer ASA 324 mg's (four baby aspirins)
3. Oxygen 1-6 LPN N/C or 10-15 LPM by NRFM
4. Monitor EKG and document
Treat arrhythmias per protocol
5. Establish IV of .9% NACL at TKO
6. If blood pressure is above 90 mmhg administer .4 mg's or NTG. May repeat up to three times.
7. Consider:
MS04 2-5 mg's over 1 – 5 minutes. Titrate to effect.
Fentanyl 50 – 200 mcg's IV slow push
8. Contact appropriate medical facility for further orders and transport.

This form supersedes no other

KBEMS Form 30 070
090824

Abdominal pain

Abdominal pain may be the result of a chronic disease, or may be the result of an acute abdominal emergency requiring immediate management. A wide variety of conditions may present with abdominal pain and the primary complaint. In the event of internal hemorrhage, or a distended abdomen, deteriorating vital signs will be a late finding.

Signs and symptoms; decreased CNS perfusion, decreased end organ perfusion, pale skin, SOB, tachycardia, distended, tender, or rigid abdomen, decreased or absent bowel sounds.

Treatment;

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM, or 100% BVM .
3. Establish an IV of .9% NACL at a TKO unless hypotensive
4. Monitor EKG and document
5. Contact ER for further orders
6. Transport to appropriate medical facility

Probable causes of pain by quadrants and location

RUQ

Liver
Gallbladder
Cholecystitis
Hepatitis
Liver abscess or tumor
Duodenal ulcer
Right lower lobe pneumonia

LUQ

Spleen infarct or rupture
Pancreas
Stomach
Colon
Duodenal or gastric ulcer
perforated esophagus

RLQ

Appendix
Right ovary
Colon
Reg. Ileitis
Ischemic or infarction of the bowel

LLQ

Left ovary
Colon
Diverticulitis
Ulcerative Colitis

EPIGASTRIC PAIN

Gastric or Duodenal ulcer
Pancreatitis
Aortic Aneurysm
M.I.
Perforated ulcer
Liver
Gallbladder

LOWER ABDOMINAL PAIN

Aortic Aneurysm
Appendicitis
Diverticulitis
Ovarian Cyst/Ectopic pregnancy
Perforated bowel

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090805

Respiratory Distress

Respiratory distress may be the result of a disease process or a complication of injury, from asthma and pneumonia to emphysema and pulmonary embolism. Dyspnea is second only to chest pain in frequency in the emergent setting. Assessing and correcting respiratory distress is the cornerstone of quality medical monitoring and intervention.

Signs and symptoms include; Pale, diaphoretic, cyanotic (considered a late sign), coughing, anxious, Tripod position, orthopnea, tachypnea, bradypnea, pulsus paradoxus, crackles, rhonchi, wheezes, tachycardia, accessory muscle use and suprasternal retractions.

Treatment;

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM, or 100% BVM .
3. Oxygen at low concentration for COPD, but don't withhold high concentration if the pt. needs it.
4. Assess vital signs and history
5. Apply EKG and document
6. Establish IV of .9% NACL at TKO unless shock is present
7. Consider Ventolin 2.5 mg
Consider Solu-Medrol
Epinephrine .3 to .5 mg of 1:1000 SQ or if shock is present .3 to .5 mg of 1:10,000 IV
8. Contact appropriate medical facility and transport

This document supersedes no other

KBEMS Form 30 074
090805

Obstetrics – Childbirth

Obstetrical emergencies are rare but occasionally the EMS attendants have to deal with them. The delivery is usually a normal event and requires supportive care. Attendants should prepare for two patients.

ASSESSMENT

1. Place the patient on her back with torso slightly elevated and legs bent with soles flat on the cot.
2. Assess vital signs of mother. Obtain EDC and history of past pregnancies (Gravida) and live births (Para) including complications or anticipated multiple births.
3. Assess contractions, including start time, frequency and duration, effectiveness of contractions (strength) and membrane status. Transport should be initiated if contractions are five minutes apart.
4. Assess for fetal heart tones and movement.
5. Check for crowning or bulging. Look for evidence of a prolapsed cord, hemorrhage, or abnormal presenting parts. Even the most minute hemorrhage should be reported to the physician.
6. Elevation of BP should also be reported immediately
7. Transport a prolapsed cord immediately.
8. Birth is probably imminent if;
 - Effectual contractions are two minutes apart or less and have a duration of approximately 60 seconds.
 - Peritoneal bulging or crowning is present with contractions

IMMINENT BIRTH

1. Monitor the airway
2. Oxygen as needed. Should only be used with complications.
3. Establish and IV of .9% NACL at a TKO rate, but be prepared to administer fluids if needed.
4. Insure the patient is in a recumbent position.
5. Open the Obstetric pack, drape patient, and maintain a sterile environment.
6. To facilitate a slow controlled birth, apply support to the fetal head.
7. When the fetal head emerges, suction the the mouth and nose to remove amniotic fluid.
8. As the delivery proceeds, the head should rotate to the side. Prepare for the upper or anterior shoulder to deliver.
9. Place your hands on each side of the baby's face and apply gently downward pressure to deliver the upper anterior shoulder than apply upward pressure to deliver the other shoulder.
10. The infant is very slippery and caution should be taken. Dry the infant off and wrap in a sterile blanket to maintain the heat.
11. Note the time of birth and do an assessment on the infant.
 - Assess airway and suction as needed. Respiratory efforts may require tactile stimulation.
 - Do an APGAR score and again at five minutes after birth.
12. Clamp and cut the cord.
13. Transport the mother and the infant to the appropriate facility.
14. The placenta normally delivers after approximately 20 minutes and transport should not be delayed for the placenta.
15. During transport, place the infant at the mother's breast to nurse and massage the fundus to minimize any hemorrhage and expel clots.
16. Apply sanitary pads to the perineum.

Obstetrical Emergencies

POST PARTUM HEMORRHAGE

1. Secure airway

2. Assess vitals
3. Oxygen by mask
4. Establish IV's of .9% NaCl and administer an estimated two times the observed blood loss.
5. Consider requesting orders for 10 Units of Pitocin added to the IV and titrate to affect.

THIRD TRIMESTER HEMORRHAGING

1. Secure airway
2. Assess vitals
3. Oxygen by mask
4. Establish large Bore IV's of .9% NaCl to maintain BP at 80 - 90 mmHg systolic
5. Do not do a vaginal exam
6. Monitor EKG
7. Contact receiving facility and consider rapid transport

PROLAPSED CORD

1. Check cord for pulsation and rate.
2. Place patient on her left side
3. Oxygen by mask
4. Establish large Bore IV's of .9% NaCl
5. Do not attempt to replace the cord.
6. With a gloved hand, gently push the presenting part off the cord without compromising the cord. If the cord is protruding from the vagina, wrap it loosely in a sterile dressing that has had normal saline irrigating solution on it.
7. Contact the appropriate facility and consider rapid transport
8. Continually monitor the umbilical cord for pulsation, rate and fetal heart tones.

FIRST OR SECOND TRIMESTER HEMORRHAGE

1. Secure airway
2. Oxygen by mask
3. Establish IV of .9% NaCl to maintain BP at 80 - 90 mmHg systolic
4. Monitor EKG
5. Contact the appropriate facility and transport

PRE-ECLAMPSIA AND ECLAMPSIA (TOXEMIA OF PREGNANCY)

1. Secure airway
2. Oxygen by mask
3. Place the patient on her left side with head elevated but in axial alignment
4. Assess vital signs, check clonus, and obtain a history of hypertension and edema with the pregnancy
5. Establish IV of .9% NaCl at a TKO and as a medication line only.
6. Monitor EKG
7. Transport rapidly and smoothly, but without lights and siren (Lights and siren can precipitate seizures)
8. For eclampsia consider 4 gr. Of Magnesium Sulfate
9. Consider Valium but with caution

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090826

Poisoning

Poisonings and overdoses occur in all age groups. Poisoning can be from a household cleaner to a toxic substance. Overdoses are usually from a prescription medication or an illegal substance. It is essential in poisonings and overdoses to accurately determine the source of toxin. This can be accomplished by contacting Poison Control with information from the label.

1. Secure airway, assess breathing and circulation and intervene as necessary.
2. History including; Type of exposure/ ingestion, time since exposure
3. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM, or 100% BVM .
4. Assess vital, obtain history and BS value
5. Monitor EKG and document
6. Establish an IV of .9 % NACL at TKO
7. Other considerations for specific toxins include:
 - Narcan 0.4- 0.8 mgs IV for confirmed or suspected narcotic OD
 - 1 Amp 50% Dextrose based on BS value
 - Diphenhydramine 50 mgsfor dystonic reactions
 - Sodium Bicarbonate 1 mEq/kg IV for symptomatic TCA overdoses
 - Atropine 2 mgs IV for organophosphate poisoning.
 - Organophosphate poisonings include s/s;
 - S = salivation
 - L= lacrimation
 - U= urination
 - D= defacation
 - G= GI pain
 - E= emesis
8. Contact Poison Control at 1-800-332-6633
9. Contact appropriate receiving facility and transport

This form supersedes no other

KBEMS Form 30 077
090824

Seizures

Seizures may result from a central nervous system disorder or may present as a symptom of an underlying metabolic or systemic disease. Treatment is aimed at supportive.

Treatment:

1. If patient is actively seizing protect the patient from injury
2. Secure airway, assess breathing and circulation and intervene as necessary.
3. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM, or 100% BVM .
4. Obtain history and vital signs
5. Establish IV of .9 % NACL at TKO
6. Check Glucose level
7. Monitor EKG
8. Consider 2 – 10 mgs of Valium IV for active seizing
9. Consider Versed 1 – 5 mgs IV for active seizing

This form supersedes no other

KBEMS Form 30 080
100509

Adult Cardiac Arrest

1. Secure airway, assess breathing and circulation and intervene as necessary.
 - A. Endotracheal intubation as indicated
 - B. Combi-tube as indicated
2. Oxygen 1- 6 LPM n/c, 10-15 LPM/NRFM or 15LPM/BVM.
3. Asses the need for ACLS and initiate
4. Begin CPR with BVM at 100%
5. Apply EKG and analyze rhythm, shock if indicated at 360 J.
6. Secure airway with endotracheal intubation or combitube.
7. Establish an IV of .9 % NACL at TKO unless underlying cause is fluid replacement.
8. Package patient onto LSB
9. Treat arrhythmias per AMA algorithems
10. Contact appropriate medical facility for additional orders
11. Transport with additional personnel to continue CPR

This form supersedes no other

KBEMS Form 30 082
090809

Burns

It is estimated there are approximately 2.4 million burns injuries each year in the United States. About 650,000 are treated by medical professionals and 75,000 of those are hospitalized. Between 8,000 and 12,000 patients with burns die, and approximately one million will sustain substantial or permanent disabilities resulting from their burn injury. In 2005, the Center for Disease Control and Prevention reported that deaths from fires and burns are the fifth most common cause of unintentional deaths in the United States and the third leading cause of residential deaths. 75% of burn fatalities occur at the scene. Burn accident statistics show that at least 50% of all burn accidents can be prevented. Burn injuries are second to motor vehicle accidents as the leading cause of accidental death in the United States. Burns occur from several sources including: fire/ flame, scald, contact with hot objects, electrical and chemical.

1. STOP the burning, remove the patient from the source, and remove clothing and any jewelry in the affected area. Cool the area with saline soaks or sterile water if less than 15% burns. Avoid long cooling of large body surface areas.
2. Assess airway, breathing and circulation and intervene as necessary,
(Inhalation burns from inhalation can result in laryngeal edema that can occlude the airway. Intubate if evidence suggests respiratory tract burns).
3. Oxygen at 1-6 LPM or 10 – 15 LPM NIFM based on the O₂ saturation.
4. Establish at least one large bore IV with .9% NaCl
5. Obtain history of the type of burn and burn exposure and determine percentage of burns and depth. Use Parkland formula for fluid replacement.
6. Dress burns accordingly, wet burns with moist dressings and dry burns with dry dressings. Avoid salves or ointments.
7. Consider Morphine for pain (patient may require up to 20 mg's but be cautious of respiratory depression and blood pressure.
8. Treat associated injuries
9. Contact appropriate medical facility for further orders and transport

This form supersedes no other

KBEMS Form 30 084
090909

STROKE CVA

RATIONAL: Stroke also known as brain attach or cerebral vascular attach (CVA) is the third leading cause of adults in the United States. Each year 700,000 people suffer a stroke. Five hundred thousand of these strokes are first occurrences, while the rest are repeat strokes. Every 45 seconds someone has a stroke in the United States and strokes account for a death every three to four minutes. Yet up to 40% of people in a recent study could not identify a single symptom of stroke. The estimated total cost of a stroke is \$42 billion in the United States.

DEMOGRAPHICS: The risk for stroke in blacks is almost twice that of whites. Only 20% to 25% of patients who are admitted to the hospital with a stroke arrive in the emergency department within 3 hours of the onset of symptoms eliminating the possible treatment of tissue plasminogen activator. A rapid assessment is essential for definitive treatment. Of all strokes, 87 percent are ischemic, 10 percent are intracerebral hemorrhage, and 3 percent are subarachnoid hemorrhage.

INTERVENTION INDICATORS:

Hemiparalysis	Vomitting	receptive or expressive aphasia
Head ache	seizures	dysarthria and apraxia
Blurred speech	dysphasia	fever
Hypertension	vomiting	ECG abnormalities
Drooling	seizures	labored or irregular respirations
Dysphagia	apneic periods	increased blood pressure
Aphaia	Apraxia	bowel and bladder incontinence
confusion that leads to a complete loss of consciousness		

1. Secure airway, assess breathing and circulation and intervene as indicated
2. Oxygen 1 – 6 LPM N/C or 10 – 15 NRFM
 - A. Endotracheal intubation as indicated
 - B. Combi-tube as indicated
3. Provide a calm and reassuring atmosphere
4. History and time of onset is crucial to emergency care remember “OPQRST”
5. Use Cincinnati pre-hospital stroke scale in assessment.
6. Perform Cincinnati pre-hospital stroke scale
7. Establish an IV of .9 % NACL at TKO
8. Monitor EKG and document
9. Transport the patient on the affected side with their head elevated 15 degrees in a position of comfort.
10. Consider:
 - Valium for seizures 5 – 10 mg’s IV
 - Dopamine for hypotension 5 – 20 mcg’s

This form supersedes no other

KBEMS Form 30 086
100609

Chest Injuries

Trauma is the fourth leading cause of death in the United States and is the leading cause of death in children. Chest injuries are the leading cause of all trauma deaths. Chest trauma can result from a blunt or penetrating force to the chest and medical conditions such as spontaneous pneumothorax. There is potential to damage vital organs such as lungs and heart. When treating, be cautious as there can be other major injuries such as possible spinal injury. The injuries cause four specific etiologies; fractured ribs, flail segment, collapsed lung, and sucking or open chest wounds including gunshot wounds to the chest.

1. Secure airway, assess breathing and circulation and intervene as indicated
2. C- spine precautions if indicated
3. Oxygen at 10 -15 LPM NRFM
4. Control major hemorrhage and stabilize flail segments
5. Establish at least one large bore IV of .9 % NACL and replace fluids as indicated (do not spend valuable time on the scene to start the IV, trauma patients are not saved in the field)
6. Monitor EKG and document
7. Decompress tension pneumothorax
8. Contact the appropriate medical facility and transport

This form supersedes no other

KBEMS Form 30 086
090909

Abdominal Injury

Abdominal injuries can be classified into two general categories; blunt and penetrating. Symptoms are variable depending on the nature of the injury. Blunt abdominal trauma is a leading cause of morbidity and mortality among all age groups. These injuries can be as severe as the penetrating type, but more difficult to diagnose. Their most immediate life-threatening consequences are hemorrhage and hypovolemic shock; later threats include infection.

SIGNS AND SYMPTOMS:

Closed / blunt trauma	Open / penetrating trauma
Pain to the area	Obvious entry wound
Guarding from pain	Hemorrhaging
Tachycardia	Bowel evisceration
Hypotension (s/s shock)	Hypotension (s/s shock)
Distended abdomen	Distended abdomen
Discoloration, firm or rigid	Distended or rigid
Hypoactive bowel sounds	

1. Secure airway, assess breathing and circulation and intervene as indicated
 - A. Intubate as indicated
Consider RSI
 - B. Combitube as indicated
2. Oxygen 1 – 6 LPM N/C or 10 – 15 NRFM
3. Spinal immobilization as indicated
4. Dress eviscerations with sterile saline soaked dressings, cover dressings with occlusive dressings to retain heat and moisture.
5. Immobilize impaled objects
6. Establish at least one large bore IV of .9 % NACL at a rate to maintain systolic BP > 90 mmHg
7. Monitor EKG and document
8. Contact appropriate medical facility and transport

This document supersedes no other

KBEMS Form 30 090
091009

Head Injuries

About two million head injuries of all types (including skull and facial fractures) occur each year in the U. S.. Every 5 minutes someone dies from a head injury. The direct and indirect costs of traumatic brain injury in the U. S. have been estimated to be \$48.3 billion annually. The lifetime costs for one person surviving a severe TBI can reach \$4 million.

INTERVENTION INDICATORS:

Decreased level of consciousness	Pupil changes
Irregular respirations	Battle signs
Coons eyes	Posturing decorticate and decerebrate
Headache	Hypertension
Amnesia	CSF from nose or ears
Dysrhythmia's typically bradycardia	

1. Airway breathing and circulation
2. Cervical and Spinal immobilization
3. Oxygen as indicated by vital signs, O2 Sat's and PaCO2 between 25 – 30 mmHg
4. Establish at least one large bore IV with .9 % NACL administer to maintain a systolic BP >90 mmHg
5. Dress open wounds and cover orifices with CSF seeping
6. Consider;
Valium 5 – 10 mg's for seizures
7. Contact the appropriate medical facility and transport

This form supersedes no other

KBEMS Form 30 092
091009

Spinal Trauma

RATIONAL: Spinal cord injuries are physically and emotionally devastating. It is estimated that the annual incidence of spinal cord injury (SCI) is approximately 40 per million in the United States, with approximately 11,000 new cases each year. It predominantly affects males, at a rate of 4:1 to females. These are young patients, with a mean age of 35 years. Most people with neurologically complete lesions above C-3 die before receiving medical treatment. Those who survive are usually dependent on mechanical respirators to breathe. Pre-hospital management of spinal cord injury is of critical importance since 25% of spinal cord injury damage may occur or be aggravated after the initial event. Paralysis from injury could be a temporary sequela of spinal shock or permanent. 52% of spinal cord injuries are considered paraplegic and 47% are considered quadriplegic. Always immobilize even if the mechanism of injury remotely suggest the possibility of injury.

INTERVENTION INDICATORS:

Paralysis	Incontinence
Dyspnea	Parathesias
Hypotension	Tachycardia
Diaphoresis	Tenderness
Pain	

TREATMENT:

1. Secure airway, breathing, and circulation
2. Control C-spine and apply a cervical collar
3. Oxygen 1 – 6 LPM N/C or 10 – 15 LPM NRFM
4. Log roll patient onto LSB and secure, when secured, may open front of collar to observe neck
5. Establish IV of .9% NACL at TKO unless otherwise indicated by vital signs
Be alert for signs of spinal shock
6. Contact the appropriate facility and transport
7. Consider:
Solu-Medrol 125 – 250 mg's IV

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KBEMS Form 30 094A
090914

MULTIPLE SYSTEMS TRAUMA

RATIONAL: According to the Centers for Disease Control and Prevention (CDC), unintentional injury kills more people between the ages of 1 and 44 than any other disease or illness. Each year trauma accounts for 37 million emergency department visits and 2.6 million hospital admissions across the nation. The majority of deaths occur in the first several hours after trauma. Rapid assessment, treatment and transport are essential to the survival of the trauma patient.

1. Secure airway, breathing and circulation
2. Control major hemorrhage and C-spine
3. Oxygen 10 – 15 LPM NRFM
4. V/S, history, and physical exam
 - Mechanism of injury
 - Life-threatening injuries
 - Shock or respiratory failure
 - Preservation of life takes precedence over all other considerations
5. Stabilize all injuries before moving unless other factors place the patient in jeopardy.
6. Apply C-Collar and fully immobilize the patient on a LSB
7. Establish at least one large bore IV of .9 % NACL to maintain a systolic BP > 90 mmHg.
 - Do not prolong scene or transport time to establish IV's, survival is dependent on rapid surgical intervention.
8. Contact the appropriate trauma center to activate the trauma plan and any further orders
9. Transport

This form supersedes no other

FBEMS Form 30 094A
091109

Drowning/Near drowning

RATIONAL: In 2000, there were 3,482 unintentional drownings in the United States, an average of nine people per day. 1 in 4 fatal drowning accidents involve children 14 and under. Drowning is the leading cause of death in children 4 and under and the second leading cause of death in children under 14. For every child that dies, another 4 are treated in the emergency room for submersion-related accidents, some of which cause permanent brain damage. Males and African Americans are statistically at higher risk.

INTERVENTION INDICATORS:

Altered mental status	Seizures
Unresponsiveness	Coughing
Vomiting	Choking
Apnea	Dyspnea
Tachycardia	Bradycardia
Pulseless	Pale / cyanotic
Abdominal distention	Cool / clammy skin

1. Do not attempt to rescue a near-drowning victim unless you have been trained in water rescue.
2. Remove the victim from the water and always assume a neck injury.
3. Assess airway, breathing, and circulation
4. Oxygen 1 – 6 LPM N/C, 10 – 15 LPM NRFM, or 100% BVM for non-breathers
Intubate as indicated
Be alert for vomiting and have suction ready
5. Initiated CPR as indicated
6. Monitor EKG and document
7. Establish an IV of .9 % NACL at TKO
Because water conducts heat 25 to 30 times more than air and rescuers should observe for signs and symptoms of hypothermia. Hypothermia can be a benefit and trigger the mammalian diving reflex.
8. Contact the appropriate medical facility and transport
9. Follow AHA algorithms' as indicated

This form supersedes no other

KBEMS Form 30 100A
090914

Anaphylaxis

RATIONAL: Anaphylaxis is the most severe kind of allergic reaction, usually involving several body systems. Anaphylactic allergy is exposed to an allergen; their immune system goes into overdrive. The substances it produces, such as histamine, are intended to protect the body, but they go much too far, causing the throat to swell up and the blood vessels to leak fluid. Severe allergic emergencies affect an estimated 3 million to 40 million Americans and causes up to 1,500 deaths each year. The symptoms can occur within minutes of exposure to the offending allergen or may develop up to two hours later. The most common cause of death is from cardiovascular collapse or laryngeal edema that occludes the airway.

DEMOGRAPHICS: Before age 16, anaphylaxis is more common in boys than in girls. After age 30, it is more common in women than in men. Race and geographic location do not affect the risk of anaphylaxis. Up to 6 percent of the general population has an allergic sensitivity to latex

INTERVENTION INDICATORS:

Hypotension	Dizziness
Diaphoresis	Syncope
Hives / urticaria	Nausea
Cramping	Diarrhea
Vomiting	Angioneurotic edema
Wheezing	Dyspnea
Chest pain	Flushing
Headache	Itching
Seizures	Bradycardia / tachycardia
Cool, clammy skin	Unconsciousness
Dysrhythmias	

1. Secure airway, breathing and circulation
2. Oxygen 10 – 15 LPM NRFM or 100% BVM
Intubate as indicated, laryngeal edema can occlude an airway in minutes. (severe reactions may require a Crico-thyrotomy)
3. Place patient in the shock position as indicated
4. Assist patient with auto-injector or;
Administer 0.3 – 0.5 mg's of 1:1000 Epi sub-q
If severe reaction or hypotensive, administer 0.3 mg's of 1:10,000 IV
5. Establish IV of .9 % NACL at TKO unless hypotensive and then 500 cc fluid challenge
6. Consider:
Dyphenhydramine 25 – 50 mg's IV
Albuterol 2.5 mg's nebulized
Atrovent .5 mg's nebulized
Solu-Mederol 125 – 250 mg's IV
7. Contact the appropriate medical facility and transport

This form supersedes no other

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