

OSF ST. Joseph Medical Center

BROMENN Regional Medical Center

McLean County Area

EMERGENCY MEDICAL SERVICES SYSTEMS

FIELD TREATMENT PROTOCOLS

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REVISED: December 2007

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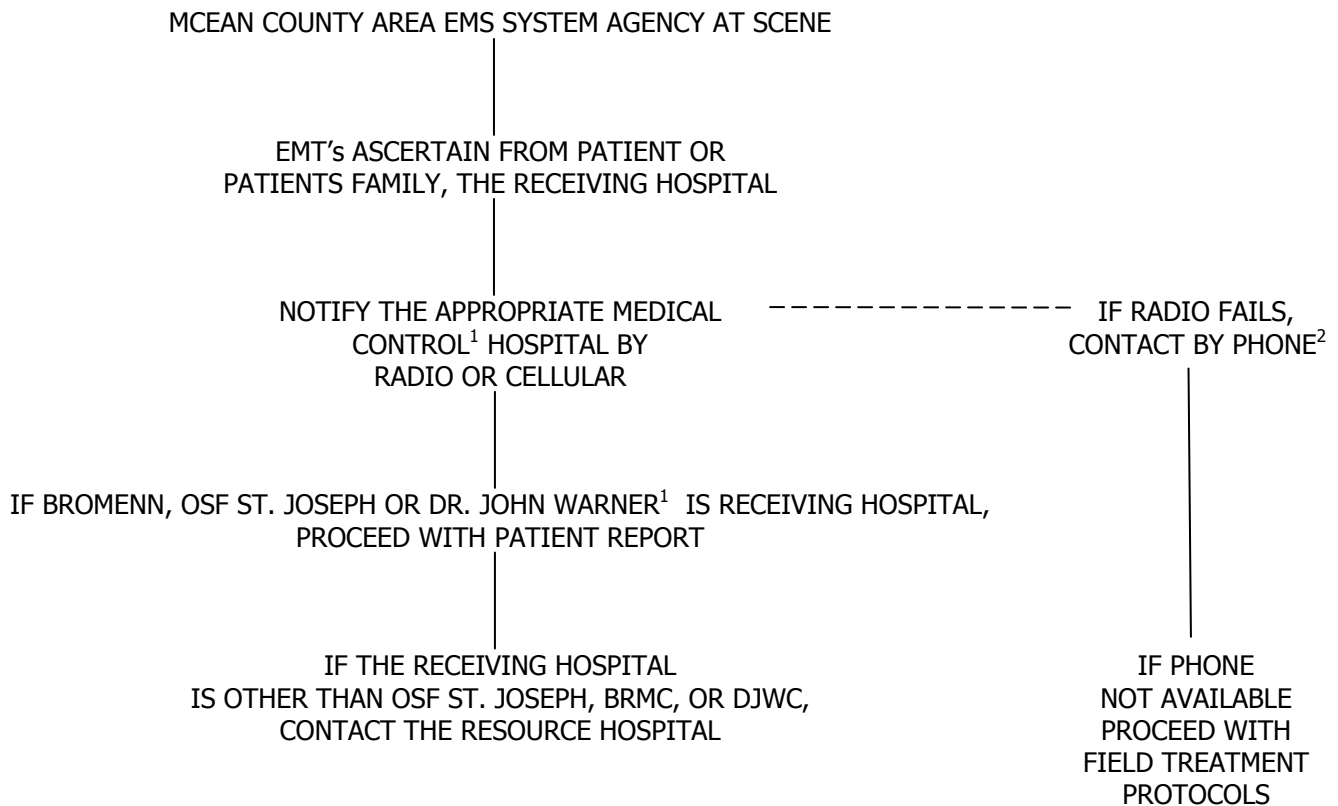
ACCEPTABLE ABBREVIATIONS

1°	first degree
2°	second degree
3°	third degree
♀	female
♂	male
@	at
abd	abdomen
AC	antecubital
ACS	acute coronary syndrome
AED	automated electrical defibrillator
a.fib.	atrial fibrillation
a.flutter	atrial flutter
ALS	advanced life support
AM	between 12 midnight & 12 noon
A.M.A.	against medical advice
AMI	acute myocardial infarction
amt	amount
ant	anterior
approx.	approximately
AROM	active range of motion
ASA	aspirin (acetyl salicylic acid)
AV	arteriovenous (as in AV graft or AV shunt)
BLS	basic life support
BP <i>or</i> B/P	blood pressure
BPM	beats per minute
BVM	bag valve mask
° C	degrees Celsius
CABG	coronary artery bypass graft
CAO	conscious, alert, oriented
CHF	congestive heart failure
CNS	central nervous system
c/o	complaints of
COPD	chronic obstructive pulmonary disease
CP	chest pain
CPAP	continuous positive airway pressure
CPR	cardiopulmonary resuscitation
CVA	cerebrovascular accident (stroke)
Δ	change
D.A.S.	dead at scene
D/C	discontinue
dL	deciliter
D.O.A.	dead on arrival
D5W	5% dextrose in water
ECG <i>or</i> EKG	electrocardiogram
ECRN	emergency communications radio nurse
E.D.	emergency department
EMS	emergency medical services
EMT	emergency medical technician
ET <i>or</i> ETT	endotracheal tube
ETA	estimated time of arrival
ETOH	alcohol
° F	degrees Fahrenheit

F.B.	foreign body
FR	first responder
FR-D	first responder – defibrillation
ft	foot/ feet
GCS	Glasgow coma score
GERD	gastro esophageal reflux disease
GI	gastro-intestinal
grav.	Gravida (number of pregnancies)
GSW	gunshot wound
gtts	drops
hx	history
ICU	intensive care unit
IDDM	insulin dependant diabetes mellitus
ILS	intermediate life support
IM	intramuscular
IN	intra-nasal
IO	intraosseous
irreg	irregular
IV	intravenous
J	Joules
JVD	jugular vein distention
kg	kilogram
L	liter
lb	pound
LLQ	left lower quadrant
LMP	last menstrual period
LOC	loss of consciousness
lpm	liters per minute
lt	left
LUQ	left upper quadrant
MAE	moves all extremities
MCA	motorcycle accident
mcg	microgram
mEq	milliequivalent
mg	milligrams
M.I.	myocardial infarction
min	minute
ml	milliliter
mmHg	millimeters of mercury
MVC	motor vehicle collision
NIDDM	non-insulin dependant diabetes mellitus
NKA	no known allergies
NRB	nonrebreather mask
NS	normal saline (0.9% saline)
NSR	normal sinus rhythm
NTG	nitroglycerin
N/V/D	nausea/ vomiting/ diarrhea
Ø	no, none
O ₂	oxygen
O.D.	right eye
OD	overdose
O.S.	left eye
O.U.	both eyes
P	pulse
para	children (number of live births)
PAT	paroxysmal atrial tachycardia

PCS	pediatric coma score
P.E.	physical exam
PE	pulmonary embolism
PEA	pulseless electrical activity
per	by way of
PERRL	pupils equal, round and react to light
po	per os (by mouth)
PSVT	paroxysmal supraventricular tachycardia
pt.	patient
PTCA	percutaneous thrombolytic coronary angioplasty
PVC	premature ventricular contraction
PVD	peripheral vascular disease
Q or q	every
R	respirations
RR	respiratory rate
ROM	range of motion
rt	right
RUQ	right upper quadrant
SL	sublingual
SMO	standing medical order
SQ	subcutaneous
SVT	supraventricular tachycardia
T	temperature
TBSA	total body surface area
TKO	to keep open
V.fib	ventricular fibrillation
V.tach	ventricular tachycardia
X	times u
y.o.	year old

**MCLEAN COUNTY AREA
EMERGENCY MEDICAL SERVICES SYSTEM
COMMUNICATION FLOW**



¹ - APPROPRIATE MEDICAL CONTROL:

First Responder, BLS and ILS agencies may contact BroMenn Regional Medical Center, Dr. John Warner Hospital or OSF St. Joseph Medical Center, whichever is the receiving hospital. If the receiving hospital is not one of these three, contact the Resource Hospital. You cannot receive orders from a participating hospital, or a hospital from outside the McLean County Area EMS System.

ALS agencies must receive medical control from BroMenn Regional Medical Center or OSF St. Joseph Medical Center, whichever is the receiving hospital. If the receiving hospital is not one of these two, contact the Resource Hospital.

² - NO RESPONSE FROM HOSPITAL:

If you receive no response from the hospital after repeated attempts, attempt contact using cellular phone or landline, if still no response or these are unavailable, contact the Resource Hospital for orders. If the Resource Hospital is the hospital not responding, contact the alternate Resource Hospital.

PATIENT RADIO REPORT

BLS/ILS/ALS

Contact should be made with receiving hospital in a timely manner (upon departing scene or on recognition of need for ALS) and the following information about each patient relayed:

1. Age, sex, family physician, patient weight.
2. Present complaint:
 - a. Chief complaint/mechanism of injury.
 - b. History of present illness or injury, PERTINENT medical history.
3. Physical exam/vital signs (repeated every 5 - 10 min.):
 - a. Blood pressure
 - b. Pulse
 - c. Respirations/lung sounds
 - d. Skin condition
 - e. Pupils
 - f. Mental status
 - g. Other findings
4. History, including:
 - a. Other symptoms
 - b. Allergies
 - c. Medications
 - d. Past medical history
 - e. Last meal (if pertinent to condition)
 - f. Events leading to this incident
5. Identify EKG rhythm and transmit EKG via telemetry as requested by receiving hospital (where appropriate).
6. BLS/ILS/ALS procedures completed and any changes after treatment.
7. ETA to hospital (actual transmit time).
8. Transmit patient's name or initials only if requested by receiving hospital.
9. Radio transmissions need to be concise and include only pertinent information. A typical radio report should be between 1 and 2 minutes long.
10. If patient's condition precludes gathering all the above information, an initial report may be made with pertinent information. Then recontact with more information and an update in patient's condition.
11. If patient meets Category 1 Trauma criteria, notify the hospital as quickly as possible and inform them the patient is a Category 1 trauma. See Field Triage of the Trauma Patient Policy.

STANDING ORDERS/PROTOCOL

Please note that some procedures listed in this manual are marked with an asterisk or double asterisk.

- * May perform in event of communication failure or if contacting medical control would delay patient care
- ** Requires Medical Control physician order to perform. ECRN's must verify this order with the physician.

Asterisks apply only to the level of licensure where listed. For example, Symptomatic Bradycardia. ILS would need to call for orders for transcutaneous pacing and ALS would not, even though states "Continue ILS care".

EMTs may perform those procedures not preceded by an asterisk prior to contacting the receiving hospital. These are considered "Standing Orders."

In the event of radio communication failure or if a delay in providing care is, in the judgment of the EMT caring for the patient, deemed to be potentially harmful to the patient, EMT's may perform those procedures (appropriate to their level) that are marked with a single asterisk. This is considered "Operating On Protocol."

A written explanation (Incident Report Form) of each occurrence of radio communication failure/protocol use must be completed by the involved EMT and submitted to the EMS Department within 24 hours after the occurrence (see the EMS Policy and Procedure Manual for protocol usage form).

"Voice contact is impossible to establish" is defined as: The EMT is unable to establish verbal contact to transmit patient information or receive treatment orders from the receiving hospital or either of the Bloomington-Normal Emergency Departments by using the telemetry radio, M.E.R.C.I. radio, dispatch radio, or telephone in attempts to make contact.

Procedures that are marked with a double asterisk may not be performed without prior voice order from the Medical Control physician or designee.

If the Medical Control physician is not present at the radio or phone at the time the call information is received, an approved ECRN may receive the radio information and give voice orders for any of the Standing Orders as well as those Protocol orders marked with a single asterisk. The ECRN may only give orders preceded by a double asterisk after receiving approval from the Medical Control Physician.

MISCELLANEOUS GUIDELINES

Blind Airway Insertion Devices include Combitube or King Airways.

IV ATTEMPTS

No more than two (2) peripheral IV attempts by ILS personnel should be made while at scene. Up to two (2) more attempts may be made while en route, if indicated.

ALS personnel should use discretion in the number of IV attempts made at scene. Multiple IV attempts (on calls with prolonged scene times) will be reviewed.

ON "LOAD AND GO" TRAUMA PATIENTS, IV ATTEMPTS SHOULD BE MADE WHILE EN ROUTE.

Peripheral IVs include IVs initiated on the extremities.

EXTERNAL JUGULAR IV ACCESS

External jugular vein access for IV should only be attempted by paramedics after other peripheral sites have been exhausted, are nonexistent or inaccessible.

ENDOTRACHEAL INTUBATION

No more than 2 attempts per EMT or 3 attempts total per patient. An attempt is defined as the laryngoscope blade inserted into the oral cavity unless a foreign obstruction was encountered.

Bougie Blind Intubation assistance device may be use in intubation attempts.

ENDOTRACHEAL DRUG ADMINISTRATION

Medications given endotracheally should be administered at 2 to 2.5 times the recommended IV dose. Medications approved for ET administration are listed in Protocol/Standing Orders.

INTRAOSSEOUS INFUSIONS (Bone Injection Gun)

Intraosseous infusion access may only be attempted by Intermediates or paramedics after other peripheral sites have been exhausted or if other sites are nonexistent. Only two attempts to establish an intraosseous infusion may be made, one in each proximal tibia. A system approved IV infusion device may be used when initiating IO access.

Indications for IO infusions are:

- Patients who are in cardiac arrest or are unconscious, unresponsive, with signs and symptoms of shock;
- and,
- have life-threatening trauma or life-threatening medical emergencies
- and,
- two failed attempts or 90 seconds pass at an IV line or peripheral sites are inaccessible.

INTUBATION SEDATION

If sedation is needed to intubate patient, orders should be obtained for Versed and intubation attempts made enroute to hospital.

Quick Clot gauze packets are to be used for uncontrolled bleeding as directed.

Res-Q-Pod – Res-q-pod is indicated for cardiac arrest patients over 12 years of age.

STANDARD PRECAUTIONS

EMTs should use common-sense precautions against transmission of infectious/contagious diseases when caring for any patient. Appropriate personal protective equipment must be worn when exposure to blood or other potentially infectious materials is reasonably anticipated.

Impermeable gloves should be worn by EMTs when exposure to blood or other body substances is anticipated

(e.g., a trauma patient, incontinent patient) and when performing certain procedures (e.g., IV therapy, suctioning).

Eye and face protection should be worn when exposure to blood or body substance is possible (e.g., vomiting patient) and when performing certain procedures (e.g., suctioning, intubating).

Other protective equipment (e.g., gowns) should be worn when gross exposure to blood or other potentially infectious materials is reasonably anticipated (e.g., auto accidents, childbirth, shootings).

TRANSMISSION BASED PRECAUTIONS

Airborne Precautions

EMTs should consider using fitted particulate (N95 or better) face masks when caring for patients who may have an infectious or contagious airborne disease and for any patients with a productive cough.

Droplet Precautions

Follow OSHA and Illinois Department of Labor guidelines

Contact Precautions

Follow OSHA and Illinois Department of Labor guidelines

**ROUTINE CARDIAC CARE
CHEST PAIN/DYSRHYTHMIA/POSSIBLE MI**

F.R.

1. **Oxygen** via nasal cannula 4 Liters per minute if no reported or evident respiratory distress, or **oxygen** via non-rebreather mask 15 liters per minute if respiratory distress is present or reported
2. Reassure patient
3. Loosen any tight clothing
4. Place patient supine or in a position of comfort
5. Examine patient and obtain history. Recheck vital signs every 5-10 minutes

BLS:

1. Continue First Responder care.
2. For apparent Cardiac related chest pain, give **aspirin** by mouth (4 tablets of 81 mg chewable or children's aspirin). Have patient chew or swallow 4 tablets.
****NOTE: Do Not give to patients with a history of ulcer disease or asthma without online approval of the Medical Control Physician.**
NOTE: Do not give to patients with known hypersensitivity to aspirin.
3. Attach cardiac monitor, record rhythm strip for ED chart.¹ *Mounted and labeled copies of ECG must be left with patient.*
4. For apparent Cardiac related chest pain, **Nitroglycerin**, single metered dose. This may be repeated every 5 minutes until pain is relieved or systolic blood pressure 100 mm/Hg or less.
****NOTE: Do Not give if patient relates history of taking Viagra, Cialis, or Levitra without online approval of Medical Control Physician.**
NOTE: Do not give NTG if systolic blood pressure is 100 or less.
NOTE: Contact Medical Control if heart rate greater than 130
5. Perform 12 lead EKG initially, whenever condition changes (when appropriate) and upon arrival at receiving facility. Transmit or fax 12-leads to Medical Control facility and receiving facility. Provide original of 12-lead to receiving facility physician on arrival.
6. If 12-lead automatic interpretation indicates *****Acute MI Suspected*****, or 12-lead is interpreted by physician as an Acute MI suspected
Transport patient to a hospital with angiography, PTCA, and cardiothoracic capabilities
As long as transport to such a facility is less than 30 minutes, otherwise closest hospital.
7. Age greater than 40, or patient unstable, transport patient by or intercept with ALS ambulance if available.

ILS:

1. Continue BLS care.
2. IV **Normal Saline** (hang 250 ml bag) TKO
3. Draw blood tubes
- **4.** **Morphine Sulfate** 2 mg IV slowly.
NOTE: Do not give morphine if systolic blood pressure 100 or less.
5. Monitor oxygen saturation with pulse oximeter
- **6.** Repeat **Morphine Sulfate** 2 mg IV slowly every 5 minutes until pain is relieved.
NOTE: Do not give morphine if systolic blood pressure 100 or less.

ALS:

1. Continue ILS care
2. IV Normal Saline (hang 250 ml bag) TKO or Saline Lock
3. **Morphine sulfate** 2 mg IV slowly.
NOTE: Do not give morphine sulfate if systolic blood pressure is 100 or less.
4. Monitor oxygen saturation with pulse oximeter
5. Repeat - **morphine sulfate** 2 mg IV slowly X 1 (Total 4 mg.)
NOTE: Do not give morphine sulfate if systolic blood pressure is 100 or less.
- *6.** Repeat **morphine sulfate**, 2 mg IV slowly every 5 minutes until pain is relieved.
NOTE: Do not give morphine sulfate if systolic blood pressure is 100 or less.

¹ - If defibrillator approved, AED, monitor or 12 lead equipped

CARDIAC ARREST

F.R.

1. Open airway
 - Use modified jaw thrust if trauma is suspected
2. Establish breathlessness
 - Two breaths with pocket mask or Bag-Valve-Mask
3. Confirm pulselessness. If unwitnessed arrest and CPR not in progress, perform CPR for 2 minutes.³
4. Ensure ambulance is enroute and request ALS unit to respond if not already enroute.
5. Establish airway
 - Insert oral or nasal airway.
6. Ventilate at rate of 10-12 breaths per minute with Bag-Valve-Mask with supplemental **oxygen** at 15 liters per minute.
7. Attach AED
 - Follow AED Cardiac Arrest algorithm
8. Insert system approved blind insertion airway device, to control airway when appropriate

BLS:

1. Continue First Responder care.
2. Use Res-Q-pod device along with BVM for ventilatory support if available
3. Attach AED, record rhythm strip if equipped, for ED chart.
 - Follow AED cardiac arrest algorithm
4. Insert system approved blind insertion airway device, to control airway when appropriate
5. Contact ILS or ALS unit to respond to scene or meet en route

ILS:

1. Continue BLS care
2. Evaluate EKG rhythm
 - Follow appropriate algorithm
3. Perform ET intubation or Insert system approved blind insertion airway device
4. IV or IO of Normal Saline TKO
 - IV site of choice: AC
5. Epinephrine, 1 mg 1:10,000 IV^{1, 2}
6. Repeat epinephrine every 3-5 minutes

ALS:

1. Continue ILS care
2. Evaluate EKG rhythm
 - Follow appropriate algorithm

1. It is strongly recommended all medications be given IV vs. ET when possible.
2. When unable to establish vascular access ET medications should be administered 2-2.5 times the IV dose.
3. It is recommended that interruptions in compressions should be 10 seconds or less except for ET/system approved blind insertion airway device or use of defibrillator/AED.

CARDIAC ARREST DIALYSIS PATIENTS

FR:

1. Cardiac Arrest Protocol

BLS:

1. Cardiac Arrest Protocol

ILS:

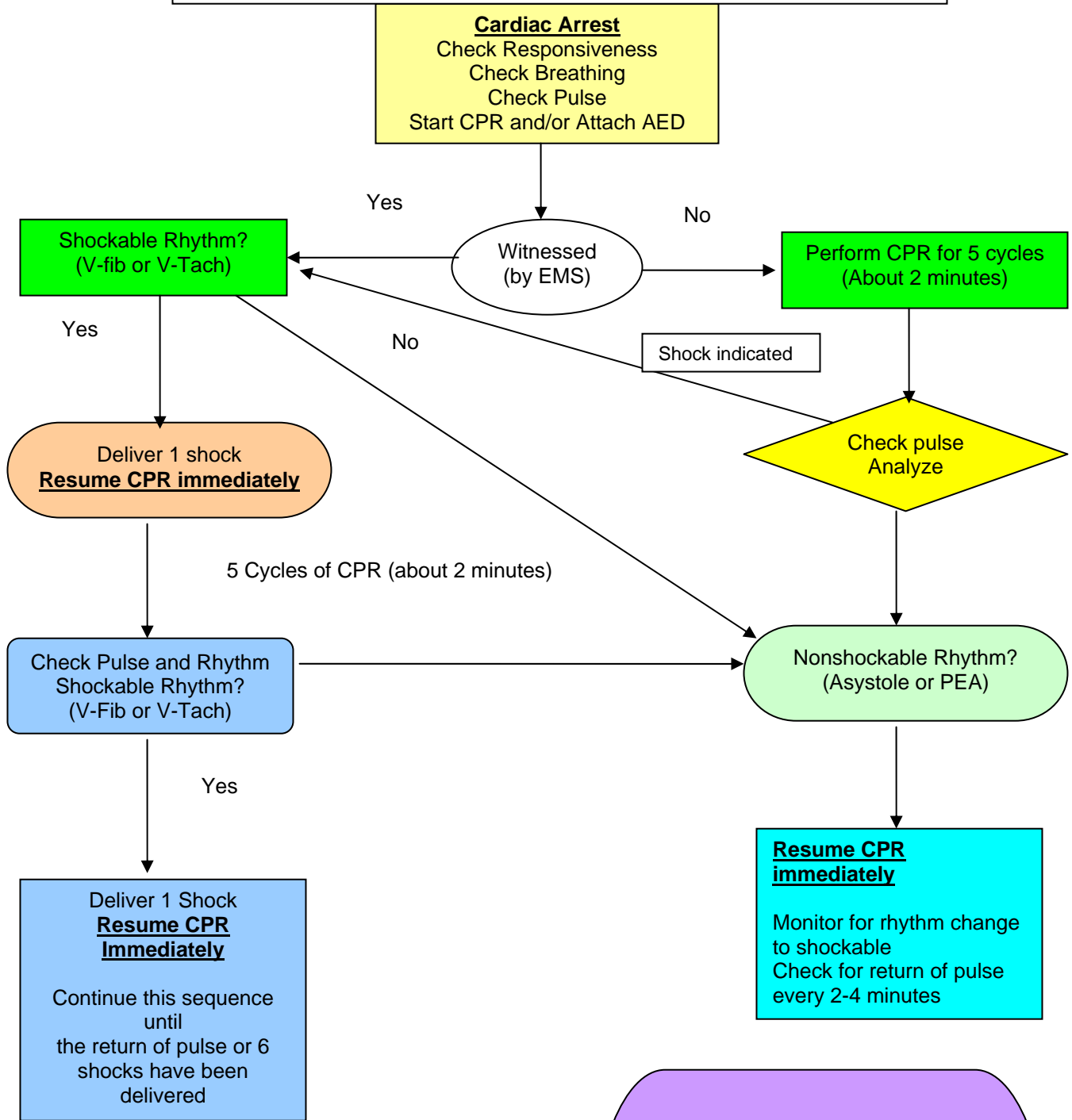
1. Cardiac Arrest Protocol
2. Do not give excessive IV fluids

ALS:

1. Cardiac Arrest Protocol
2. Do not give excessive IV fluids
- **3. 1 gram Calcium Chloride IV push slowly
- **4. 50 - 100 mEq Sodium Bicarbonate IV push slow

Note: See Protocol for Patients with A V shunts, Fistulas and Grafts for IV access guidelines.

First Responder/ EMT-B Cardiac Arrest Algorithm



Note

- * The goal is to only interrupt CPR for defibrillation (1 shock) and ventilation (2 breaths)
- * Pulse checks should be no more than 10 seconds, unless the patient is hypothermic
- * For unwitnessed arrests, perform CPR for 5 cycles (2 minutes) prior to defibrillation

First Responder/ EMT-B Cardiac Arrest Algorithm

Continued

1. If pulse returns, check vital signs and render routine cardiac care.
2. "Press to Analyze" and "Press to Deliver Shock" steps should not be done while in transit (e.g., in a moving ambulance or while moving patient).

If public access defibrillation has been initiated, confirm the absence of pulse and respiration, attach AED and follow the appropriate shock/no shock algorithm.

**CARDIAC PROTOCOL
VENTRICULAR FIBRILLATION
PULSELESS VENTRICULAR TACHYCARDIA**

F.R.

1. Follow Cardiac Arrest SMO

BLS:

1. Continue First Responder Care
2. Follow Cardiac Arrest SMO

ILS

1. Continue BLS Care
2. Follow Cardiac Arrest SMO
3. Confirm pulselessness. If unwitnessed arrest and CPR not in progress, perform CPR for 2 minutes.
4. Confirm V-Fib/Confirm pulselessness
Defibrillate 1 shock
 - 360 joules manual monophasic or
 - **biphasic device specific energy or 200 joules**
 - device specific if AED
5. Check Rhythm, if still V-Fib/Pulseless V-Tach continue, otherwise go to appropriate SMO
6. CPR for 5 cycles of 30:2 (about two minutes)
7. Confirm V-Fib/Confirm pulselessness
Defibrillate 1 shock
 - 360 joules manual monophasic or
 - **biphasic device specific energy or 200 joules**
 - device specific if AED
8. Intubate or insert system approved blind insertion airway device to control airway (Minimize any interruption of CPR)
9. IV or IO Normal Saline (hang 1000 ml bag) at TKO rate
10. Epinephrine, 1 mg 1:10,000 IV or IO.
Repeat Epinephrine every 3-5 minutes
If unable to start IV or IO, administer 2-2.5 mg 1:10,000 epinephrine via ET tube
11. CPR for 5 cycles of 30:2 (about two minutes)
12. Confirm V-Fib/Confirm pulselessness
Defibrillate 1 shock
 - 360 joules manual monophasic or
 - **biphasic device specific energy or 200 joules**
 - device specific if AED
13. Lidocaine, 1.0-1.5 mg/kg of body weight IV or IO.
14. CPR for 5 cycles of 30:2 (about two minutes)
15. Confirm V-Fib/Confirm pulselessness
Defibrillate 1 shock
 - 360 joules manual monophasic or
 - **biphasic device specific energy or 200 joules**
 - device specific if AED
- *16. Repeat Lidocaine in 5 minutes at 0.5-0.75 mg/kg once
- **17. Repeat Lidocaine in 5 minutes at 0.5-0.75 mg/kg to total dose of 3 mg/kg
18. Transport ALS if available, otherwise request ALS intercept

CARDIAC PROTOCOL
VENTRICULAR FIBRILLATION
PULSELESS VENTRICULAR TACHYCARDIA
(Continued)

ALS

1. Continue ILS Care
2. Vasopressin 40 units IV or IO **or** Epinephrine, 1 mg 1:10,000 IV or IO.
3. If Vasopressin is given, after 15 minutes Epinephrine, 1.0 mg 1:10,000 IV or IO
4. Repeat Epinephrine every 3-5 minutes
If unable to start IV or IO, administer 2-2.5 mg 1:10,000 epinephrine via ET tube
5. Magnesium Sulfate, 2.0 grams IV or IO, over 1-2 minutes.
- **6. Consider Sodium Bicarbonate, 1 mEq/kg

NOTES:

- A. Repeat epinephrine every 3-5 minutes, unless otherwise noted.
- B. If pulse returns after Lidocaine bolus, start Lidocaine infusion at 2-4 mg/min.
- C. If pulse returns and blood pressure less than 90 systolic, then treat as in Cardiogenic Shock Protocol (page 27)

**CARDIAC PROTOCOL
WIDE COMPLEX TACHYCARDIA
VENTRICULAR TACHYCARDIA WITH PULSE
STABLE PATIENT**

F.R.

Follow Routine Cardiac Care SMO

BLS:

1. Continue First Responder Care
2. Follow Routine Cardiac Care SMO

ILS

1. Routine Cardiac Care SMO
2. If unstable, proceed to Tachycardia (rate greater than 150), see Unstable Patient protocol
3. Lidocaine 1.0 - 1.5 mg/kg bolus IV
- *4. Lidocaine, 0.5-0.75 mg/kg every 5-10 minutes until V-Tach resolves or a total dose of 3 mg/kg has been given
- **5. Adenosine 6 mg rapid IV push over 1-3 seconds¹
- **6. Adenosine 12 mg rapid IV push over 1-3 seconds¹
7. Transport ALS, if available, otherwise request ALS intercept
- **8. Consider cardioversion if tachycardia is unresolved

ALS

1. Continue ILS Care
2. Adenosine 6 mg rapid IV push over 1-3 seconds
3. Adenosine 12 mg rapid IV push over 1-3 seconds
- *4. Procainamide 20-30 mg/min until a total of 17 mg/kg has been given, hypotension develops, QRS widens by greater than 50%, or arrhythmia is suppressed if tachycardia unresolved
- **5. Consider cardioversion if tachycardia is unresolved

NOTES:

- A. Unstable: Decreased level of consciousness, hypotensive, chest pain, shortness of breath, pulmonary congestion, congestive heart failure or acute myocardial infarction.
- B. If rhythm resolves after Lidocaine bolus, start Lidocaine infusion at 2-4 mg/min.
- C. If rhythm resolves after Procainamide, start Procainamide infusion at 1-4 mg/min.
- D. Maintenance dose of LIDOCAINE should be reduced by 50% for patient older than 70 years of age or patients with history of hepatic disease.

1. Adenosine must be immediately and rapidly flushed with a 20-30 ml bolus of saline.

**CARDIAC PROTOCOL
TACHYCARDIA (RATE GREATER THAN 150)
UNSTABLE PATIENT**

Unstable condition must be related to the tachycardia with rate greater than 150 and signs and symptoms which may include chest pain, shortness of breath, decreased level of consciousness, hypotension, pulmonary congestion, congestive heart failure or acute myocardial infarction.

F.R.

Follow Routine Cardiac Care SMO

BLS:

1. Continue First Responder Care
2. Follow Routine Cardiac Care SMO

ILS

1. Routine Cardiac Care
- **2. Premedicate (sedate) if possible
Valium, 5-15 mg IV slowly
- **3. Synchronized cardioversion, 100 joules or device specific (see notes)
- **4. Synchronized cardioversion, 200 joules or device specific
- **5. Synchronized cardioversion, 300 joules or device specific
- **6. Synchronized cardioversion, 360 joules or device specific

ALS

1. Routine Cardiac Care
2. Premedicate (sedate) if possible
Versed, 1-2.5 mg IV slowly or
Valium, 5-15 mg IV slowly
3. Synchronized cardioversion, 100 joules or device specific (see notes)
4. Synchronized cardioversion, 200 joules or device specific
5. Synchronized cardioversion, 300 joules or device specific
6. Synchronized cardioversion, 360 joules or device specific

NOTES:

- A. Rhythm and pulse status should be verified after each cardioversion.
- B. If delays in synchronization occur and clinical conditions are critical, go to immediate unsynchronized shocks.
- *C. Medications, as outlined in "Wide Complex - Stable Patient" and "Narrow Complex Tachycardia - Stable Patient" protocols, may be given prior to or simultaneously with cardioversion, as directed by Medical Control.
- D. For Torsade de Pointes, initial cardioversion energy level is 200 joules.
- E. For PSVT and Atrial Fibrillation, initial cardioversion level is 50 joules.

**CARDIAC PROTOCOL
NARROW COMPLEX TACHYCARDIA
STABLE PATIENT**

F.R.

Follow Routine Cardiac Care SMO

BLS:

1. Continue First Responder Care
2. Follow Routine Cardiac Care SMO

ILS

1. Continue BLS Care
 2. If unstable, proceed to Tachycardia (rate greater than 150), see Unstable Patient protocol
- **Adenosine, 6 mg rapid IV push¹

If tachycardia not suppressed in 1-2 minutes following initial dose of adenosine:

- **5. Adenosine, 12 mg rapid IV push
- **6. Consider cardioversion if tachycardia is unresolved

ALS

1. Continue ILS Care
2. If unstable, proceed to Tachycardia (rate greater than 150), see Unstable Patient protocol (page 22)
3. Valsalva Maneuver or Carotid Sinus Massage (Only in the absence of carotid bruit, endarterectomy scar, history of CVA, or age greater than 60)

If underlying rhythm is NOT Atrial fibrillation or atrial flutter, or is unknown, and the heart rate is greater than 150

4. Adenosine, 6 mg rapid IV push (If not given as part of ILS care)¹
 5. Adenosine, 12 mg rapid IV push (If not given as part of ILS care), if tachycardia not suppressed in 1-2 minutes following initial dose of adenosine¹
 6. Adenosine, 12 mg rapid IV push (If not given as part of ILS care), if tachycardia not suppressed in 1-2 minutes following second dose of adenosine¹
- **7. Consider cardioversion if tachycardia is unresolved

NOTES:

- A. Unstable: Decreased level of consciousness, hypotensive, chest pain, shortness of breath, pulmonary congestion, congestive heart failure or acute myocardial infarction.
 - B. Adenosine must be immediately and rapidly flushed with a 20-30 ml bolus of saline.

CARDIAC PROTOCOL ASYSTOLE

If rhythm is unclear and possibly ventricular fibrillation, defibrillate as for v. fib. Confirm asystole in two leads.

F.R.

1. Follow Cardiac Arrest SMO

BLS:

1. Continue First Responder Care
2. Follow Cardiac Arrest SMO

ILS

1. Continue BLS care
2. Confirm pulselessness. If unwitnessed arrest and CPR not in progress, perform CPR for 2 minutes.
3. Confirm Asystole in two leads and record rhythm in both leads for chart.
4. Initiate IV or IO of NS
5. Epinephrine, 1.0 mg 1:10,000 IV or IO. Repeat Epinephrine 1.0 mg every 3-5 min.
6. Atropine, 1.0 mg IV or IO push. Repeat every 3-5 minutes up to a total of 0.04 mg/kg
7. Transport ALS if available

ALS

1. Continue ILS Care
2. Vasopressin 40 units IV or IO or Epinephrine, 1 mg 1:10,000 IV or IO.
3. Repeat Epinephrine 1.0 mg every 3-5 min.
- **4. Consider cessation of efforts
5. If Vasopressin is given, after 15 minutes Epinephrine, 1.0 mg 1:10,000 IV or IO.

NOTES:

- A. Consider possible causes of asystole: Hypoxia, hyperkalemia, hypokalemia, pre-existing acidosis, drug overdose or hypothermia.
- **B. Consider discontinuing resuscitative efforts if patient meets the following conditions (asystole is non-responsive to Advanced Life Support interventions, i.e. intubation, epinephrine, atropine):
 - hypothermia or drug overdose are not contributing factors
 - patient is not a child

**CARDIAC PROTOCOL
PULSELESS ELECTRICAL ACTIVITY
(ELECTRO-MECHANICAL DISSOCIATION)**

F.R.

1. Follow Cardiac Arrest SMO

BLS:

1. Continue First Responder Care
2. Follow Cardiac Arrest SMO

ILS

1. Continue BLS care
2. Consider possible causes (possible treatments)
 - Hypovolemia (volume infusion)
 - Hypoxia (ventilation with 100% oxygen)
 - Tension pneumothorax
 - Cardiac Tamponade
 - Hypothermia (see Hypothermia Protocol)
 - Massive pulmonary embolism
 - Drug overdose
 - Hyperkalemia
 - Acidosis
 - Massive Acute Myocardial Infarction
3. Epinephrine, 1.0 mg 1:10,000 IV or IO. Repeat Epinephrine 1.0 mg every 3-5 min. If unable to start IV or IO, administer Epinephrine 2-2.5 mg 1:10,000 via ET tube
4. If bradycardia, administer Atropine, 1.0 mg IV or IO push. Repeat every 3-5 minutes up to a total of 0.04 mg/kg
5. Transport ALS if available

ALS

1. Continue ILS Care
2. Vasopressin 40 units IV or IO or Epinephrine, 1 mg 1:10,000 IV or IO
Repeat Epinephrine every 3-5 minutes
3. Treat possible causes (possible treatments)
 - Hypovolemia (volume infusion)
 - Hypoxia (ventilation with 100% oxygen)
 - Hypothermia (see Hypothermia Protocol)
 - Hyperkalemia (Sodium Bicarbonate 1 mEq/kg IV)
 - Tension pneumothorax (Needle chest decompression)
 - Cardiac Tamponade
 - Massive pulmonary embolism
 - Drug overdose
 - Acidosis
 - Massive Acute Myocardial Infarction

**CARDIAC PROTOCOL
BRADYCARDIA (RATE less than 60)
SYMPTOMATIC or
SECOND DEGREE BLOCK (TYPE II) or
THIRD DEGREE BLOCK**

Symptomatic: Associated with **serious** symptoms (chest pain, shortness of breath, decreased level of consciousness) and/or signs (decreased BP, shock, pulmonary congestion, CHF, acute MI)

F.R.

Follow Routine Cardiac Care SMO

BLS

1. Continue First Responder Care
2. Follow Routine Cardiac Care SMO

ILS

1. Continue BLS Care
2. Routine Cardiac Care

IF SERIOUS SIGNS/SYMPTOMS and rhythm is **not** 2ND DEGREE BLOCK (TYPE II) or 3RD DEGREE BLOCK:

3. Atropine 0.5 mg IV
(Repeat q 3-5 minutes up to a total of 0.04 mg/kg)
- **4. If no change, transcutaneous pacing

IF 2ND DEGREE BLOCK (TYPE II) or 3RD DEGREE BLOCK and symptomatic):

Steps 1 and 2 above and:

3. If symptomatic, begin transcutaneous pacing

ALS

1. Continue ILS Care
2. Dopamine, 5-20 micrograms/kg/min IV infusion, Start at 5 micrograms/kg/min and titrate to achieve symptom relief.
3. If no response to dopamine:
**Epinephrine infusion, 1 microgram/min. IV
Mix as listed below and begin infusing at 30 gtts/minute.
(Give 2-10 mcg/min to achieve a heart rate of 60-100)

NOTE: Epinephrine infusion is prepared as follows:
Mix 0.5 mg 1:1,000 Epinephrine in a 250 ml bag of NS.

**CARDIAC PROTOCOL
CARDIOGENIC SHOCK
(SYSTOLIC BLOOD PRESSURE LESS THAN 90)**

F.R.

Follow Routine Cardiac Care SMO

BLS

1. Continue First Responder Care
2. Follow Routine Cardiac Care SMO

ILS

1. Continue BLS Care
2. Routine Cardiac Care
- **3. Fluid challenge: Rapidly infuse 250-500 ml of NS IV (or IO if unresponsive) depending on clinical status (i.e., with caution of signs of pulmonary edema)

ALS

1. Continue BLS/ILS Care
2. Repeat Fluid challenge: Rapidly infuse 250 ml of NS IV if Systolic blood pressure less than 90 mmHg and no signs of pulmonary edema (Consider IO if unresponsive)
3. Dopamine infusion, 5 micrograms/kg/minute initially, and then increase by 5 micrograms/kg/minute to systolic blood pressure of 90 or a maximum of 20 micrograms/kg/minute.

MEDICAL/ENVIRONMENTAL PROTOCOLS
ROUTINE MEDICAL CARE

FR:

1. Assess ABC's, maintain airway
2. **Oxygen** via nasal cannula 4 Liters per minute if as needed, or **oxygen** via non-rebreather mask 15 liters per minute if respiratory distress is present or reported. Provide airway maneuvers and assist ventilations with BVM as needed.
3. Reassure patient
4. Loosen any tight clothing
5. Place patient in a position of comfort
6. Examine patient and obtain history.
Recheck vital signs every 5 minutes

BLS:

1. Continue First Responder care.

If symptoms suggestive of possible MI or cardiac history is present

1. Perform 12 lead EKG¹ initially, whenever condition changes (when appropriate) and upon arrival at receiving facility prior to unloading patient. Transmit or fax 12-leads to Medical Control facility and receiving facility. Provide original of 12-lead to receiving facility physician on arrival. (If appropriate)¹
2. Monitor oxygen saturation level. Provide airway maneuvers and assist ventilations as needed.
3. Treat according to appropriate medical protocol

ILS:

1. Continue BLS care
2. Start IV NS (250) TKO or Saline lock and check glucose level
3. Draw blood tubes
4. Treat according to appropriate medical protocol

ALS:

1. Continue ILS care

¹ - If 12 lead equipped

MEDICAL/ENVIRONMENTAL PROTOCOLS
UNCONSCIOUS/DECREASED LEVEL OF CONSCIOUSNESS/SYNCOPE
(UNKNOWN ETIOLOGY)

CONSIDER AS CAUSES:

- *CARDIOVASCULAR (M.I.)*
- *TRAUMA (head injury)*
- *NEUROLOGIC (CVA)*
- *INFECTION (sepsis, meningitis)*
- *METABOLIC (hypoglycemia, OD)*
- *ENVIRONMENTAL (heat stroke)*

FR:

1. Ensure open airway with oral or nasal airway while maintaining c-spine
2. Assist ventilation with BVM as needed
3. **Oxygen** via non-rebreather mask 15 liters per minute, or assist ventilations at rate of 10-12 breaths per minute with Bag-Valve-Mask with supplemental **oxygen** at 15 liters per minute
4. Examine patient, recheck vital signs every 5 minutes
5. Obtain history from bystanders/family members
6. Check for Medic Alert ID

BLS:

1. Continue First Responder care
2. Attach cardiac monitor, record rhythm strip, attach to documentation and deliver to physician on arrival at the receiving facility.¹
3. If narcotic overdose suspected administer 2 mg Narcan (Naloxone) Intra-nasally (IN)
4. If glucose level less than 60 mg/dl, or less than 80 mg/dl and has signs/symptoms of hypoglycemia, If patient is conscious, able to swallow **AND** has signs/symptoms of hypoglycemia, administer **Insta-glucose** under the patients tongue or in buccal pouch. otherwise give 2 mg **Glucagon** IN
5. Patients over 50 years old or if cardiac problem suspected - Perform 12 lead EKG²
6. If patient has depressed respiratory status and no gag reflex a system approved blind insertion airway device can be inserted if not otherwise contraindicated.

ILS:

1. Continue BLS care
2. Draw blood tubes (use betadine swabs to prep site)
3. IV Normal Saline (1,000 ml) TKO and check glucose level
4. If glucose level less than 60 mg/dl, or less than 80 mg/dl and has signs/symptoms of hypoglycemia, give 25 grams **50% dextrose** IV push through a patent IV site. (Do not give through IO) If unable to start IV, give 1 mg **Glucagon** IM or 2 mg IN
5. If narcotic overdose suspected administer 2 mg Narcan (Naloxone) Intra-nasally (IN) or IV
6. Intubate if no gag reflex is present. A system approved blind insertion airway device may be used if ET can not be established.

ALS:

1. Continue ILS care
2. Nasotracheal or endotracheal intubation if indicated. If unable, insert system approved blind insertion airway device.
3. Prior to nasotracheal intubation, prepare with Cetacaine and Neosynephrine spray
**If patient is potentially a candidate for thrombolytic therapy (i.e., suspected MI or PE), contact medical control prior to nasotracheal intubation.
4. Administer 100 mg of Thiamine IV or IM
5. If glucose level less than 60 mg/dl, or less than 80 mg/dl and has signs/symptoms of hypoglycemia, give 25 grams **50% dextrose** IV push through a patent IV site. (Do not use IO) (Draw blood prior to giving 50% Dextrose) If unable to start IV, give 1 mg **Glucagon** IM
6. If no change in patient condition after Dextrose, administer 2 mg Narcan IV, IM, ET or SQ
7. Recheck and record vital and neurologic signs frequently

¹ - If defibrillator approved, AED, monitor or 12 lead equipped

² - If 12-lead equipped, System approved and trained in 12 lead acquisition.

**MEDICAL/ENVIRONMENTAL PROTOCOLS
ACUTE ASTHMA**

FR

1. Ensure airway.
2. Oxygen via nasal cannula 4 Liters per minute if mild respiratory distress, or oxygen via non-rebreather mask 15 liters per minute if moderate to severe respiratory distress is present or reported. Provide airway maneuvers and assist ventilations with BVM as needed.
3. Reassure patient
4. Loosen any tight clothing
5. Place the patient in position of comfort

BLS

1. Continue First Responder care
2. Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) per nebulizer¹
- *3. Repeat Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) per nebulizer¹ enroute
4. Check vital signs every five minutes
5. Attach cardiac monitor, record rhythm strip for ED chart. *Mounted and labeled copies of ECG must be left with patient.*

ILS

1. Continue BLS care
- *2. Epinephrine 1:1,000 0.3 mg SQ or IM if patient's condition deteriorates despite Albuterol.
Note: If age greater than 40 -- give epinephrine only after medical control approval **DO NOT GIVE** if patient is hypertensive, has history of cardiovascular disease
3. IV Normal Saline (1,000 ml) TKO
4. Draw blood tubes

ALS

1. Continue ILS care
2. Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) mixed with Ipratropium (Atrovent): 0.5 mg per nebulizer
3. Repeat Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) mixed with Ipratropium (Atrovent): 0.5 mg per every 15 minutes as needed¹
4. Epinephrine 1:1,000 0.3 mg subq or IM if patient's condition deteriorates despite Albuterol
Note: If age greater than 40 -- give epinephrine only after medical control approval **DO NOT GIVE** if patient is hypertensive, has history of cardiovascular disease, or if ectopy is present.
5. Methylprednisone (Solu-Medrol), 125 mg IV

- NOTES**
- A. If patient is stable (i.e., oxygen saturation greater than 90, peak flow greater than 200, age less than 35, respiratory rate less than 36), consider omitting IV therapy.
 - B. In moderate to severe respiratory distress or status asthmaticus, administer back to back albuterol treatments.
 - C. If patient tolerates, measure peak flow before and after treatment

¹- Nebulizer treatment may be administered in-line if patient is being assisted or ventilated with a bag-valve-mask.

MEDICAL/ENVIRONMENTAL PROTOCOLS
ACUTE COPD

FR

1. Ensure airway.
2. **Oxygen** via nasal cannula 4 Liters per minute if mild respiratory distress, or **oxygen** via non-rebreather mask 15 liters per minute if moderate to severe respiratory distress is present or reported
3. Assist Ventilations, as needed at rate of 10-12 breaths per minute with Bag-Valve-Mask with supplemental **oxygen** at 15 liters per minute
4. Reassure patient
5. Assist patient in using his/her own inhaler (2-4 puffs every 2-5 minutes) as needed
6. Loosen any tight clothing
7. Place the patient in position of comfort

BLS

1. Continue First Responder care
2. Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) per nebulizer¹
- *3. Repeat Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) per nebulizer during transport
4. Check vital signs every five minutes
5. Attach cardiac monitor, record rhythm strip for ED chart. ¹ *Mounted and labeled copies of ECG must be left with patient.*

ILS

1. Continue BLS care
2. IV Normal Saline (1,000 ml) TKO
3. Draw blood tubes

ALS

1. Continue ILS care
2. Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) mixed with Ipratropium (Atrovent): 0.5 mg per nebulizer¹
3. If no improvement, repeat Albuterol Sulfate, 2.5 mg/3 ml (pre-diluted with Normal Saline) per mixed with Ipratropium (Atrovent): 0.5 mg nebulizer every 15 minutes as needed
4. If no relief from medications or if level of consciousness deteriorates: Consider nasal or endotracheal intubation.
5. Methylprednisone (Solu-Medrol), 125 mg IV

NOTES A: If patient is stable (i.e., oxygen saturation greater than 90, peak flow greater than 200, age less than 35, respiratory rate less than 36), consider omitting IV therapy.

B: In moderate to severe respiratory distress, administer back to back Albuterol treatments.

¹ Nebulizer treatment may be administered in-line if patient is being assisted or ventilated with a bag-valve-mask.

**MEDICAL/ENVIRONMENTAL PROTOCOLS
ACUTE PULMONARY EDEMA**

FR

1. Routine Medical Care

BLS

1. Routine Medical Care
2. Attach cardiac monitor, record rhythm strip for ED chart. *Mounted and labeled copies of ECG must be left with patient.*
3. Ventilate at rate of 10-12 breaths per minute with Bag-Valve-Mask, if needed, with supplemental **oxygen** at equal to or greater than 15 liters per minute

ILS

1. Routine Medical Care
2. IV Normal Saline (250 ml) TKO
3. Nitroglycerin (0.4 mg) single metered dose.
- *4. Nitroglycerin may be repeated every 5 minutes to a total of 3 doses.
**NOTE: Do not give NTG if systolic blood pressure is 100 or less.
Do not give to patients taking Viagra, Levitra or Cialis without
Medical Control approval**
5. Monitor EKG
6. If moderate to severe respiratory distress (Use of accessory muscles, retractions, Respiratory rate greater than 25 or Pulse Ox less than 95%) or no relief from medications, initiate CPAP as long as systolic BP is greater than 100 mm/Hg
- ** Initiate CPAP if systolic BP is less than 100 mm/Hg
Supplement oxygen 15 L/min through port if SaO₂ is less than 90% and not improving.
- **7. Lasix 20 - 100 mg IV push
**NOTE: If never on diuretics: 20 - 40 mg
If on diuretics previously: 40 - 100 mg**
- **8. Morphine Sulfate IV slow (2 mg)
NOTE: Do not give morphine if systolic blood pressure is 100 or less.

ALS

1. Continue ILS Care
2. Monitor EKG
3. If moderate to severe respiratory distress (Use of accessory muscles, retractions, Respiratory rate greater than 25 or Pulse Ox less than 95%) or no relief from medications, initiate CPAP as long as systolic BP is greater than 100 mm/Hg
- ** Initiate CPAP if systolic BP is less than 100 mm/Hg
Supplement oxygen 15 L/min through port if SaO₂ is less than 90% and not improving.
4. IV Normal Saline (250 ml) TKO or Saline Lock
5. Nitroglycerin (0.4 mg) single metered dose. This may be repeated every 5 minutes
NOTE: Do not give NTG if systolic blood pressure is 100 or less.
6. Lasix 20 - 100 mg IV push
**NOTE: If never on diuretics: 20 - 40 mg
If on diuretics' previously: 40 - 100 mg**
7. Morphine Sulfate IV slow (2-4 mg)
- *8. Repeat Morphine Sulfate IV.
NOTE: Do not give morphine if systolic blood pressure is 100 or less.
9. If no relief from CPAP, medications or if level of consciousness deteriorates: Consider nasal or endotracheal intubation.

MEDICAL/ENVIRONMENTAL PROTOCOLS
ALLERGIC REACTION/ANAPHYLACTIC SHOCK

FR

1. Routine Medical Care
2. Maintain airway
3. **Oxygen** via nasal cannula 4 Liters per minute if no reported or evident respiratory distress, or **oxygen** via non-rebreather mask 15 liters per minute if respiratory distress is present or reported
4. Ventilate at rate of 10-12 breaths per minute with Bag-Valve-Mask as needed with supplemental **oxygen** at 15 liters per minute
5. Place patient in Trendelenburg position, if tolerated
6. Obtain history rapidly

BLS

1. Continue FR care

If anaphylaxis present with serious signs and symptoms

2. Epinephrine in EpiPen prefilled syringe or tubex syringe IM (0.3 mg 1:1,000 Epinephrine)

ILS

1. Continue BLS care
2. Consider intubation
3. IV Normal Saline (1,000 cc) – Run wide open in systolic pressure less than 90

If anaphylaxis present with serious signs and symptoms

4. Epinephrine, 0.3 mg of 1:1,000 SQ or IM

ALS

1. Continue ILS care
2. Monitor EKG
3. Epinephrine, 0.3 mg of 1:1,000 SQ or IM or * Epinephrine 0.3 mg (3 ml (1:10,000) IV slowly)
4. Benadryl 50 mg IV slowly
5. If patient is hypotensive (BP less than 90 systolic), start Dopamine drip – 400 mg in 250 ml Normal Saline IV infusion at 2-5 micrograms/kg/min initially, then titrate to maintain systolic blood pressure at 90 or above
6. For bronchospasm not relieved by Epinephrine, Albuterol Sulfate, 2.5 mg/3 ml (prediluted with Normal Saline) mixed with Ipratropium (Atrovent): 0.5 mg per nebulizer
- *7. Methylprednisone (Solu-Medrol), 125 mg IV

If unable to establish an IV line:

1. Epinephrine 0.3 to 0.5 ml (1:1,000) IM or SQ
(May repeat x 1 in 10 minutes if no response)
2. Benadryl 25-50 mg deep IM

**MEDICAL/ENVIRONMENTAL PROTOCOLS
CVA/STROKE "BRAIN ATTACK"**

FR

1. Routine Medical Care
2. Ensure adequate airway
3. **Oxygen** via nasal cannula 4 Liters per minute if no respiratory distress and O2 oxygen saturation greater than 92-94%, **oxygen** via non-rebreather mask 15 liters per minute if respiratory distress is present or oxygen saturation less than 92-94%.
4. If trauma to head or neck – maintain c-spine in neutral position and immobilize patient on long board with c-collar and cervical immobilization device
5. If no trauma, elevate head of bed 10 degrees
6. Conduct neuro. Exam: Check level of consciousness, speech, pupils, limb movement, etc.

BLS

1. Continue First Responder care
2. Attach cardiac monitor, record rhythm strip for ED chart. ¹ *Mounted and labeled copies of ECG must be left with patient.*
3. Perform and document F.A.S.T. Stroke Screen, report results to hospital
If Stroke screen is positive, contact Medical Control for approval of destination
4. Transport ALS if available, otherwise request intercept.

ILS

1. Continue BLS care
2. IV Normal Saline (1,000 cc) TKO
3. Draw blood

ALS

1. Continue ILS care
2. Treat any arrhythmias according to appropriate standing medical order

NOTE: Scene time should be kept at a minimum. When appropriate, IV TPA must be given in the hospital within 6 hours of onset of symptoms.

NOTE: Attach FAST Stroke Screen form to run report to be left at hospital.

F.A.S.T. Stroke Screen

Patient Name:	Age:	Date of Birth:
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Information Obtained From:

- Patient onset
- Family: _____
- Other: _____

Pertinent History/Symptoms:

- Fall/Head Trauma @ onset
- Seizure @
- Headache, Nausea/Vomiting, Neck Pain
- Patient taking Blood Thinner (i.e. Coumadin)

Screening Criteria:

(✓Check if **Abnormal*)

F (Face)

Facial Droop: Have patient smile or show teeth. (Look for asymmetry)

- Normal:** Both sides of the face move equally or not at all
- *Abnormal:** One side of the patient's face droops

A (Arm)

Motor Weakness: Arm drift (Close eyes, extend arms, palms up)

- Normal:** Remain extended equally, or drifts equally or does not move at all
- *Abnormal:** One arm drifts down when compared with the other

S (Speech)

"You can't teach an old dog new tricks" (Repeat phrase)

- Normal:** Phrase is repeated clearly and correctly
- *Abnormal:** Words are slurred (dysarthria) or abnormal (aphasia) or none

T (Time of onset) ✓

Check if Time of onset is *less than* 6 hours

Evaluation: Last seen normal: SpO2: _____ % AA

Time: _____ Date: _____
Glucose: _____ mg/dl

If any one of the top three boxes (F, A, or S) are checked AND Time of onset (T) duration is less than 6 hours, then STROKE CODE criteria are met.

Notify Receiving Facility and Transport IMMEDIATELY

Time Stroke code Called:		Time of arrival @ hospital:	
EMS Unit:	Incident#	Date:	Destination:

MEDICAL/ENVIRONMENTAL PROTOCOLS DIABETIC EMERGENCY

FR

1. Routine Medical Care
2. Check for medic alert tags or wallet cards
3. Obtain as much history as possible
 - Symptoms
 - Allergies
 - Medications (especially time/does of last meds)
 - Past medical history (diabetes?)
 - Last meal
 - Events leading to this incident (exercise? flu?)
4. Check glucose level (if equipped and trained) If glucose is less than 60 mg/dcl and patient is conscious, able to swallow AND has signs/symptoms of hypoglycemia, administer Insta-glucose under the patients tongue or in buccal pouch

BLS

1. Continue FR care
2. Check glucose level
3. If patient is conscious, able to swallow AND has signs/symptoms of hypoglycemia, administer Insta-glucose under the patients tongue or in buccal pouch.
4. If patient is unresponsive, or unable to follow directions to swallow, administer Glucagon 2 mg (Intranasally (IN) (1mg in each nare) If glucose level less than 60 mg/dl, or less than 80 mg/dl and has signs/symptoms of hypoglycemia.

ILS

1. Continue BLS care
2. Start IV Normal Saline
3. Check glucose level
4. Draw blood tubes
5. If patient is conscious, able to swallow AND has signs/symptoms of hypoglycemia, administer Insta-glucose under the patients tongue or in buccal pouch.
6. If glucose level less than 60 mg/dl, or less than 80 mg/dl and has signs/symptoms of hypoglycemia, give 25 grams **50% dextrose** IV push through a patent IV site
7. **Glucagon** IM or SQ if unable to establish IV

ALS

1. Continue ILS care
2. If glucose level less than 60 mg/dl, or less than 80 mg/dl and has signs/symptoms of hypoglycemia, give 25 grams **50% dextrose** IV push through a patent IV site
*Consider 100 mg **thiamine** IM if patient has history of ETOH abuse.*
3. **Glucagon 1 mg**, IM or SQ if unable to establish IV
4. Monitor EKG

MEDICAL/ENVIRONMENTAL PROTOCOLS ETOH INGESTION/ABUSE

FR/BLS

1. Routine Medical Care
2. Airway management, remove any foreign material, suction as necessary,
3. **Oxygen** via nasal cannula 4 Liters per minute if mild respiratory distress, or **oxygen** via non-rebreather mask 15 liters per minute if moderate to severe respiratory distress is **present or reported**
4. Assist ventilations at rate of 10-12 breaths per minute with Bag-Valve-Mask, if needed, with supplemental **oxygen** at 15 liters per minute
5. Continuous observation of patient's condition and vital signs checked as frequently as necessary.
6. Treat the patient in a calm, firm manner to prevent fear, panic or other complications. If patient exhibits aggressive behavior, physical restraints should only be used as a last resort.
7. Obtain as much history and physical information as necessary.
8. Perform rapid physical examination in an effort to rule out serious diseases or injuries. Keep in mind symptoms of diabetes, pneumonia, head injury or drug ingestion/overdose may be masked.

ILS

1. Continue BLS care

If severe intoxication is present:

2. IV 0.9% Sodium Chloride (Normal Saline) TKO rate.
3. Check glucose level

ALS

1. Continue ILS care
2. Administer 100 mg of **thiamine** IV or IM
3. If glucose level is less than 60 mg/dl or less than 80 mg/dl and patient has signs/symptoms of hypoglycemia, give 25 grams **50% dextrose** IV push through a patent IV site
4. Zofran 4mg IV slowly over 2 minutes or Zofran tablet 4 mg SL.
- **5. Repeat Zofran as above for continued nausea or vomiting.

MEDICAL/ENVIRONMENTAL PROTOCOLS HEAT RELATED EMERGENCIES

CRAMPS, TETANY, SYNCOPE AND EXHAUSTION

FR/BLS

1. Routine Medical Care
2. Move to cool environment
3. If patient is hypotensive, place in Trendelenburg position
4. Do *not* massage cramping muscle
5. If patient is c/o nausea or vomiting, give nothing by mouth
6. If no nausea give 1-2 glasses of electrolyte containing solution (e.g., Gatorade)

ILS/ALS

1. Continue FR/BLS care
2. If patient is nauseated, start IV of NS at TKO rate
3. Consider fluid bolus (250-500 ml) if patient is hypotensive

HEAT STROKE

FR

1. Routine Medical Care
2. Ensure adequate airway
3. **Oxygen** via non-rebreather mask 15 liters per minute
4. Ventilate at rate of 10-12 breaths per minute with Bag-Valve-Mask, as needed, with supplemental **oxygen** at 15 liters per minute
5. Cool patient using wet sheets and good ambient airflow and by applying ice packs to armpit/groin area

BLS

1. Continue First Responder care
2. Attach cardiac monitor, record rhythm strip for ED chart. ¹ *Mounted and labeled copies of ECG must be left with patient.*

ILS

1. Continue BLS care
- *2. Intubate or use Combitube if indicated to secure airway
3. IV of Normal Saline, TKO
4. Consider fluid bolus 20ml/kg of Normal Saline if patient has a B/P of 100 systolic or less.

ALS

1. Continue ILS care

¹ - If AED has 3 lead cables and can print rhythm strips

MEDICAL/ENVIRONMENTAL PROTOCOLS HYPERTENSIVE EMERGENCY

DEFINITION: A sudden, marked rise in blood pressure to levels greater than 200/130 mmHg. Associated symptoms may include severe headache, nausea, vomiting, seizures or alterations in mental status.

FR/BLS

1. Routine Medical Care
2. Hypertension associated with acute pulmonary edema, treat as in Acute Pulmonary Edema (page 32)

ILS

1. Continue BLS care
2. IV of NS TKO

ALS

1. Continue ILS care
2. Hypertension with severe pain, treat pain (refer to pain protocol)

MEDICAL/ENVIRONMENTAL PROTOCOLS
COLD RELATED EMERGENCIES
HYPOTHERMIA

FR:

1. Handle patient carefully - ROUGH HANDLING MAY PRECIPITATE VENTRICULAR FIBRILLATION. Maintain patient in horizontal position.
2. Ensure open airway
3. **Oxygen** via non-rebreather mask 15 liters per minute (warmed if possible)
4. CPR as necessary – but ensure pulselessness (up to 30-45 seconds to evaluate pulse)

BLS:

1. Continue First Responder care
2. Attach cardiac monitor, record rhythm strip for ED chart. *Mounted and labeled copies of ECG must be left with patient.* Defibrillate as necessary (see Cardiac Arrest protocols)
3. Remove wet clothing and maintain the patient in warm, draft-free environment
4. If ETA to hospital is less than one hour, do not attempt re-warming; cover patient and transport in a warm ambulance

ILS:

1. Continue BLS care
2. Intubate or insert system approved blind airway device, if indicated
3. Ventilate at rate of 10-12 breaths per minute with Bag-Valve-Mask, as needed, with warmed, humidified supplemental **oxygen** at 15 liters per minute
4. Large bore IV or IO of warm 0.9% Sodium Chloride (Normal Saline) (1,000 ml bag) with macrodrip tubing, at TKO rate and check glucose level¹
- *5. If glucose level less than 60 mg/dl and unresponsive or has signs/symptoms of hypoglycemia, give 25 grams 50% dextrose IV push through a patent IV site (Do not give through IO)

ALS:

1. Continue ILS care
2. If glucose level less than 60 mg/dl – give 25 grams 50% dextrose IV push through a patent IV site.

NOTES:

1. IF CORE TEMPERATURE Less than 30 ° C or unconscious:
 - Withhold IV medications
 - Limit defibrillations to 3 maximum
2. IF CORE TEMPERATURE greater than 30 ° C and conscious:
 - Administer IV medications as indicated (but at 2 time the standard intervals)
 - Repeat defibrillation for V-Fib/V-Tach as core temperature rises

MEDICAL/ENVIRONMENTAL PROTOCOLS
COLD RELATED EMERGENCIES
LOCAL COOLING (FROSTBITE)

FR:

1. Move patient to warm environment
2. Routine Medical care
3. Remove clothing covering area affected
4. Cover affected area with dry sterile dressing

BLS:

1. Continue First Responder care
2. If short ETA: Transport
If extended ETA: Start re-warming by immersing in water kept at constant 100-105 degrees Fahrenheit (cover after warming)

ILS

1. Continue BLS/ILS care
- **2. Consider Morphine Sulfate, 2 mg IV slow, for pain relief
NOTE: Do not give morphine if systolic blood pressure is 100 or less
- **3. Repeat Morphine Sulfate, 2 mg IV slow, as needed for pain relief
NOTE: Do not give morphine if systolic blood pressure is 100 or less

ALS:

1. Continue BLS/ILS care
2. Consider Morphine Sulfate, 2 mg IV slow for pain relief
NOTE: Do not give morphine if systolic blood pressure is 100 or less
3. Repeat Morphine Sulfate X1, 2 mg IV slow, for pain relief
NOTE: Do not give morphine if systolic blood pressure is 100 or less
- *4. Repeat Morphine Sulfate (less than 4 mg), 2 mg IV slow, as needed for pain relief
NOTE: Do not give morphine if systolic blood pressure is 100 or less

MEDICAL/ENVIRONMENTAL PROTOCOLS SEIZURES

SEIZURE ACTIVITY PRESENT:

FR/BLS:

1. Routine Medical Care (Page 28).
2. Protect patient from injury -- do not restrain.
3. Maintain an airway but do not force anything between teeth.
4. Obtain a complete history.

ILS:

1. Continue First Responder/BLS care.
2. For continuous seizure activity, or a series of two or more seizures without an intervening return of consciousness.
 - a. Start an IV of NS (1000 ml) TKO and check glucose level¹.
 - b. Draw blood tubes, if possible, when starting the IV.
- **3. For continuous seizure activity, or a series of two or more seizures without an intervening return of consciousness, administer Valium, 5 mg, IV slow.
4. Consider administration of 50% Dextrose IV push if glucose level less than 60 mg/dl.
- **5. Repeat Valium, 5 mg, IV slow every 5 minutes for continuous seizure activity.

ALS:

1. Continue ILS care.
2. For continuous seizure activity, or a series of two or more seizures without an intervening return of consciousness:

Administer lorazepam, (Ativan) 2 mg IV slow or IM or
diazepam (Valium), 5 mg, IV slow or
midazolam (Versed), 2 mg, IV
3. Consider administration of 50% Dextrose IV push if glucose level less than 60 mg/dl.
4. Repeat lorazepam, (Ativan) 1-2 mg IV slow every 10 minutes or diazepam (Valium), 5 mg, IV slow every 5 minutes for continuous seizure activity, up to a total of 30 mg or repeat midazolam (Versed), 2mg, IV slow every 5 minutes for continuous seizure activity, up to a total dose of 10mg.

POST-ICTAL PATIENT:

FR/BLS:

1. Routine Medical Care.
2. Ensure an adequate airway.
3. Treat injuries.

If patient has no previous history of seizure activity:

ILS:

1. Continue BLS care.
2. Start an IV of NS (1,000 ml) TKO and check glucose level¹.
3. Draw blood tubes, if possible, when starting the IV*
4. Consider administration of 50% Dextrose IV push if glucose level less than 60 mg/dl.
5. Consider administration of glucagon 1 mg, IM if unable to establish an IV

ALS:

1. Continue ILS care.
2. Consider administration of 50% Dextrose IV push if glucose level less than 60 mg/dl.
3. Consider administration of glucagon 1 mg, IM if unable to establish an IV.

MEDICAL/ENVIRONMENTAL PROTOCOLS SUSPECTED POISONING OR DRUG OVERDOSE

AWAKE/ALERT PATIENTS

FR:

1. Routine Medical Care
2. Obtain a complete history.
 - what was ingested, injected, etc.
 - how much
 - how long ago

BLS:

1. Continue First Responder care
2. Retain any bottles or other evidence of OD.
3. If patient adamantly refuses treatment or hospital evaluation, and treatment appears advisable, request assistance from law enforcement officers.
4. If narcotic overdose suspected administer 2 mg Narcan (Naloxone) IN
5. If gaseous inhalation:
 - Remove from exposure environment.
 - **oxygen** via non-rebreather mask 15 liters per minute
6. Attach cardiac monitor, record rhythm strip, attach to documentation and deliver to physician on arrival at the receiving facility.

ILS:

1. Continue BLS care.
2. IV NS (1,000 ml) with macrodrip tubing TKO (use large bore needle) and check glucose level.
3. Draw blood tubes.
4. If narcotic overdose suspected administer 2 mg Narcan (Naloxone) IN or IV

ALS:

1. Continue ILS care.
2. If narcotic overdose suspected administer 2 mg Narcan (Naloxone), IV slowly or IM if IV is not available.

IF PATIENT IS UNCONSCIOUS OR HAS DECREASED LEVEL OF CONSCIOUSNESS:

BLS/ILS/ALS: Treat as above plus follow Unconscious/Decreased Level of Consciousness (Unknown etiology) protocol.

MEDICAL/ENVIRONMENTAL PROTOCOLS NEAR DROWNING

FR:

1. Ensure adequate airway.
2. Maintain C-spine.
3. Obtain history of incident (i.e., how long under water, estimated water temperature, events leading to submersion).

IF PATIENT IS IN CARDIAC ARREST

Follow cardiac arrest protocol

IF PATIENT IS NOT IN CARDIOPULMONARY ARREST:

4. **Oxygen** via nasal cannula 4 Liters per minute if no reported or evident respiratory distress
- oxygen** via non-rebreather mask 15 liters per minute if respiratory distress is present or reported
5. Routine medical care.

BLS:

1. Continue First Responder care

IF PATIENT IS NOT IN CARDIOPULMONARY ARREST:

2. Attach cardiac monitor, record rhythm strip for ED chart. ¹ *Mounted and labeled copies of ECG must be left with patient*
3. Monitor oxygen saturation level².

ILS/ALS:

1. Continue BLS care.
2. IV Normal Saline at TKO rate.

**MEDICAL/ENVIRONMENTAL PROTOCOLS
PATIENTS WITH AV SHUNTS, FISTULAS AND GRAFTS**

FR/BLS:

1. Do not take blood pressure on arm with shunt, fistula or arteriovenous graft.

ILS

1. Avoid starting an IV on the arm with the shunt, fistula, or graft.

ALS:

1. Avoid starting an IV on the arm with the shunt, fistula, or graft.
2. If life threatening emergencies (cardiac arrest, hypovolemia, etc.) and venipuncture not possible, the shunt fistula, or AV graft may be used to administer medications or IV fluids.

IF PATIENT HAS A SHUNT

Disconnect the two small tubes, apply copper clip or any clamp on the arterial line (usually on radial side of wrist). Attach IV line or syringe directly to venous line.

IF PATIENT HAS A FISTULA

A regular butterfly needle or IV needle and catheter may be inserted in any prominent veins.

IF PATIENT HAS AN AV GRAFT

The IV needle can be inserted to the venous side of the graft.

IF SHUNT TUBING IS PULLED OUT OF ENTRANCE SITE

FR/BLS/ILS/ALS:

1. Apply direct pressure to bleeding site.
2. Elevate the affected arm.
3. Apply a tourniquet above the site of the bleeding only as final effort to control bleeding.
4. Transport immediately to hospital.

IF SHUNT TUBING ACCIDENTALLY BECOMES DISCONNECTED

BLS/ILS/ALS:

1. Apply copper clips (should be on dressing or with patient) to end of tubing and transport.

MEDICAL/ENVIRONMENTAL PROTOCOLS RADIATION INJURIES

- FR:**
1. Protect self.
 - a. Ensure patient has been moved to a safe area and has been decontaminated.
 - b. Wear appropriate personal protective equipment.
 - c. Wear dosimeter if available.
 2. Routine medical care.
 3. If burns, treat as in Burn Protocol.

- BLS:**
1. FR care
 2. Transport to appropriate facility.

- ILS/ALS:**
1. FR/BLS care.
 2. IV access should be avoided unless necessary.

TRAUMA PROTOCOLS
ROUTINE TRAUMA CARE
UNSTABLE PATIENT

(also see *Critical Trauma Situations - "Load and Go"*, p. 59)

Category I Trauma

Unstable vital signs

GCS 10 or less

Penetrating injuries to head, neck, torso, groin

Amputation above wrist or ankle

Flail chest

2+ long bone fractures

Paralysis/sensory deficits above wrists or ankle

Burns greater than 20% TBSA w/assoc trauma

Category II Trauma

Falls greater than 20 feet (Ped fall greater than 3x height of child)

Ejection from vehicle

Death in same passenger compartment

Pregnancy 24 weeks or greater

Extrication time greater than 20 minutes

Rollover MVC

Pedestrian

Motorcycle crash greater than 20 mph

Vehicle deformity 20+"

Vehicle intrusion 12+"

NOTE: The receiving hospital should be notified of any patient meeting Category I criteria as soon as possible so that the trauma team can be activated.

FR:

1. Maintain C-spine in neutral position and establish airway
2. **Oxygen** via non-rebreather mask 15 liters per minute, or
3. Ventilate at rate of 10-12 breaths per minute with Bag-Valve-Mask, if needed, with supplemental **oxygen** at 15 liters per minute

NOTE: Do not use high pressure oxygen powered ventilation on patients with chest trauma.

4. Control bleeding. Use Quik Clot (if Available) for active bleeding
5. Immobilize patient on long board with C-collar and cervical immobilization device
Log roll patient onto long board. (Consider MAST application for unstable pelvic fractures if available).

NOTE: If patient is pregnant greater than 20 weeks, tilt backboard to left.

BLS:

1. Continue First Responder care
2. "Load and Go"
3. Treat injuries (bandage, splint, etc.) - en route, Use Quik Clot for active bleeding
4. Keep patient warm to prevent hypothermia
5. Attach cardiac monitor, record rhythm strip for ED chart. ¹ *Mounted and labeled copies of ECG must be left with patient.*
6. Observe for emesis. If vomiting occurs, position patient on side while maintaining full spinal immobilization. Suction as necessary.
7. Observe for and document any change in patient assessment or level of consciousness. Document response to any treatments or interventions.

ILS:

1. Continue BLS care
2. Intubate or insert system approved blind insertion airway device (one attempt at scene if indicated)¹
3. Two largebore IV's or IO of 0.9% Sodium Chloride (Normal Saline) (hang 1,000 ml bag) en route with 1st line using blood tubing and 2nd line either macro-drip (10 gtts/ml) or blood tubing, give 20 ml/kg bolus to maintain systolic blood pressure 90-100 mmHg
4. Needle Thoracotomy (en route) if indicated by tracheal deviation, absent breath sounds on affected side, respiratory distress or difficulty ventilating patient.

ALS:

1. Continue ILS care
2. Intubate or insert system approved blind insertion airway device (one attempt at scene if indicated)¹
3. If motor/sensory deficit: Check glucose level
4. Needle Thoracotomy (en route) if indicated by tracheal deviation, absent breath sounds on affected side, respiratory distress or difficulty ventilating patient.
- *5. Consider Per-trach (at scene if indicated)

Note: Trauma patients should be hyperventilated with a BVM at 20-24 breaths per min. if signs of brain herniation are present.

TRAUMA PROTOCOLS
ROUTINE TRAUMA CARE (ADULT)
STABLE PATIENT
(SYSTOLIC BP greater than 90)

FR:

1. Maintain C-spine in neutral position and establish airway
2. **Oxygen** via nasal cannula 4 Liters per minute, if needed, if no reported or evident respiratory distress
oxygen via non-rebreather mask 15 liters per minute if respiratory distress is present or reported
3. Control bleeding. Use Quick Clot if available to control active bleeding
4. Immobilize patient on long board with C-collar and cervical immobilization device
NOTE: If patient is pregnant greater than 20 weeks, tilt backboard to left
5. Treat injuries (bandage, splint, etc.)
6. Keep patient warm to prevent hypothermia

BLS:

1. Continue First Responder care
2. Attach cardiac monitor, record rhythm strip for ED chart.¹ *Mounted and labeled copies of ECG must be left with patient.*¹

ILS

1. Continue BLS care
2. If indicated by mechanism of injury or by actual injuries, initiate IV of Normal Saline (1,000 ml) with macro-drip tubing TKO

ALS:

1. Continue ILS care
- *2. Consider Morphine Sulfate, 2-10 mg IV slow.
3. Refer to pain protocol.
NOTE: Do not give morphine if systolic blood pressure is 100 or less

NOTE: Ideally, scene time should be less than 20 minutes (excluding documented extrication or multiple victims).

TRAUMA PROTOCOLS
CRITICAL TRAUMA SITUATIONS
"LOAD & GO"

There are certain situations that require hospital treatment within minutes if the victim is to have any chance for survival. The primary survey is designed to identify these situations. When these situations are recognized, the victim should be loaded immediately onto a backboard, transferred to the ambulance, and transported rapidly with lights and sirens to the nearest hospital (preferably a Level I or Level II Trauma Center). Lifesaving procedures (other than an initial attempt at securing an advanced airway) may be needed but should be done during transport (this would include IV attempts and successive attempts at securing an advanced airway). Non-lifesaving procedures (such as splinting and bandaging) must not delay transport. Ideally, scene times should be less than 10 minutes. The following are critical situations that require "load and go":

1. Airway obstruction that cannot be quickly relieved by mechanical methods such as suction, forceps, or intubation **and/or** respiratory compromise as evidenced by RR less than 10 or greater than 29 (adults).
2. Conditions resulting in possible inadequate breathing:
 - a. Open chest wound (sucking chest wound)
 - b. Flail chest
 - c. Tension pneumothorax
 - d. Major blunt chest injury
 - e. Penetrating chest injury
3. Traumatic cardiopulmonary arrest.
4. Shock [sustained hypotension (BP less than 90 systolic adults) or BP less than 80 systolic (peds)].
5. Head injury with unconsciousness, unequal pupils, or decreasing level of consciousness (GCS equal to or less than 10).
6. Tender, distended abdomen.
7. Bilateral femur fractures.
8. Unstable pelvis.
9. Any significant deterioration in patient condition (e.g., development of shock, respiratory difficulty, or decreasing level of consciousness).

NOTE 1: The receiving hospital should be alerted to the patient's condition as soon as possible so that the trauma team can be activated.

NOTE 2: Scene time greater than 10 minutes will be reviewed.

TRAUMA PROTOCOLS
TRAUMATIC CARDIOPULMONARY ARREST

FR:

1. Check/maintain **airway** while simultaneously providing manual C-spine stabilization
2. Ventilate at rate of 10-12 breaths per minute with Bag-Valve-Mask and Res-Q-pod if available with supplemental **oxygen** at 15 liters per minute
NOTE: Do not use high pressure oxygen powered ventilation on patients with chest trauma.
3. Perform CPR
4. Log roll onto long board (consider MAST application if unstable pelvic fractures)
5. "Load and Go"

BLS:

1. Continue First Responder care
2. Monitor cardiac rhythm -- follow the applicable Cardiac Arrest protocol

ILS:

1. Continue BLS care
2. Inline ET or system approved blind insertion airway device (limit one attempt at scene)
3. Two (2) large bore IV's Normal Saline (1,000 ml) or IO with macro-drip tubing run wide open
(all attempts while en route)
- *4. Needle thoracotomy (en route) if indicated by tracheal deviation, absent breath sounds and/or hyperresonance on affected side, and dyspnea or difficulty ventilating patient

ALS:

1. Continue ILS care
2. Inline Endotracheal Intubation or system approved blind insertion airway device (one attempt at scene)
3. Needle thoracotomy (en route) if indicated by tracheal deviation, absent breath sounds and/or hyperresonance on affected side, and dyspnea or difficulty ventilating patient
- *4. Consider Per-trach cricothyrotomy (if indicated)
- **5. Consider termination of efforts in cases of blunt traumatic injury

**TRAUMA PROTOCOLS
BURNS**

THERMAL

FR

1. Observe scene safety
2. Have patient removed from fire/remove fire from patient -- IF POSSIBLE, STABILIZE NECK AND BACK BEFORE MOVING
3. Routine Trauma Care – see Stable/Unstable Trauma Protocol
4. Stop the burning process: Cover burns with sterile dressing and cool with water
NOTE: If burn occurred greater than 15 minutes prior to arrival apply dry sterile dressing
5. Remove patient's clothing and jewelry -- if clothing sticks to skin, do not remove
6. Determine % of burn (see back for diagrams)

- BLS:**
1. FR care
 2. Insert system approved blind insertion airway device if not contraindicated

ILS:

1. FR/BLS care
2. Intubate or insert system approved blind insertion airway device if not contraindicated
3. IV Normal Saline (1,000 ml) with macro-drip tubing TKO (if systolic Blood Pressure is above 90)
4. If systolic BP less than 90, start 2nd IV Normal Saline (1,000 ml) with macro-drip tubing and run both IV's wide open

5. Follow Pain Protocol

- ALS:**
1. FR/BLS/ILS care
 2. Morphine Sulfate, 2-10 mg IV slow
NOTE: Do not give morphine if systolic blood pressure is less than 90
(See pain protocol)

CHEMICAL

FR/BLS:

1. Observe scene safety
2. Irrigate the exposed area with large volumes of water -- brush off dry chemicals prior to irrigating
3. Determine information about the chemical and contact medical control for further guidelines
4. Routine Trauma Care - Stable/Unstable Trauma protocol

ILS/ALS: Treat as in thermal burns

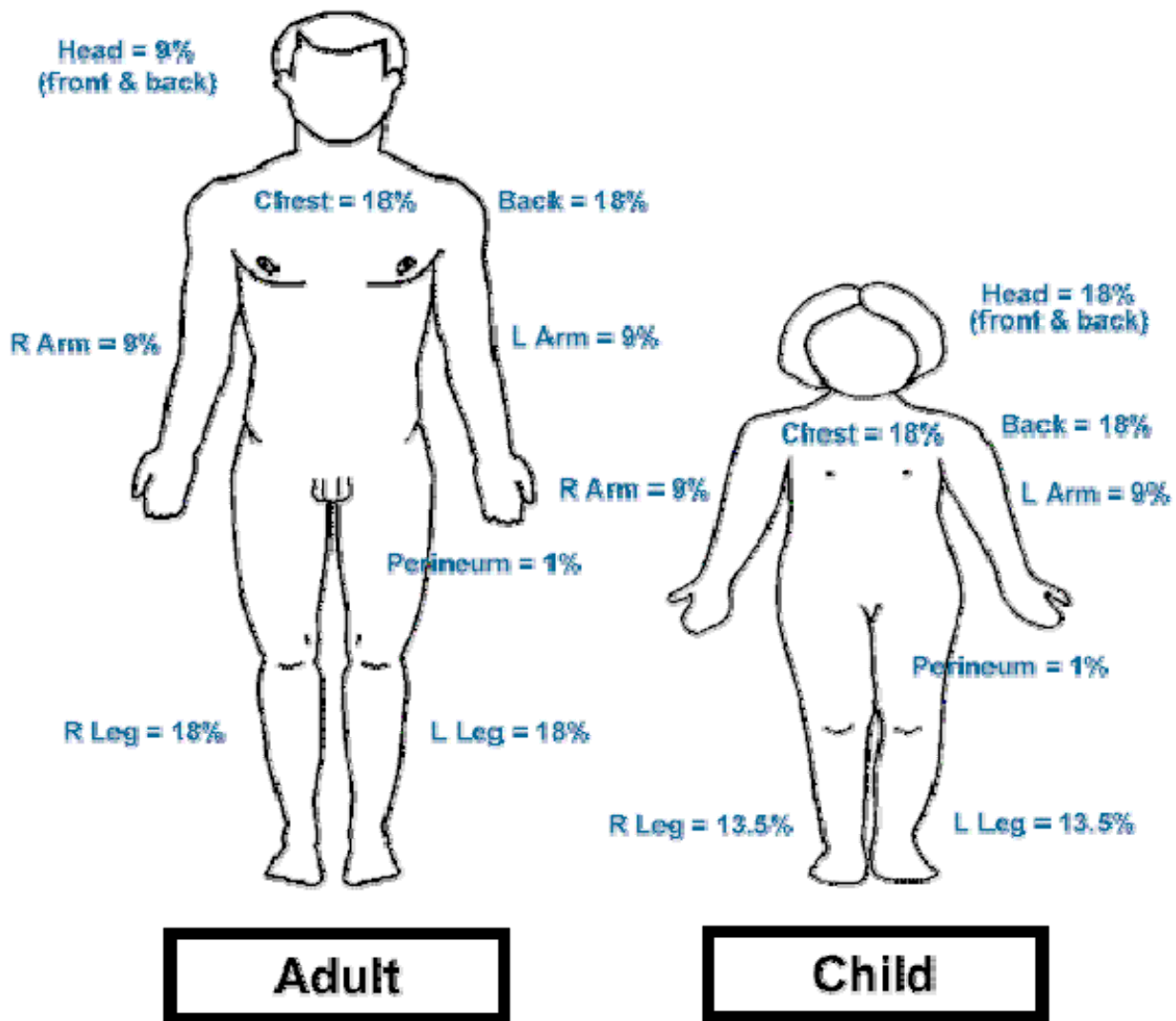
ELECTRICAL

FR:

1. Observe scene safety
2. If patient is still in contact with power source, **have trained personnel turn off power source**
3. Routine Trauma Care - Stable/Unstable Trauma protocol

- BLS:**
1. FR care
 2. Monitor cardiac rhythm

ILS/ALS: Treat as in thermal burns



TRAUMA PROTOCOLS EXTREMITY TRAUMA

DEFORMITY (SUSPECTED FRACTURES/DISLOCATION)

- FR:**
1. Routine Trauma Care
 2. Check pulses, movement, sensation (PMS) before AND AFTER splinting extremity
 3. Whenever possible, splint in position found
 4. If neurovascular status of limb is compromised, gently move extremity to anatomical position (if possible) as resistance/pain allows

- BLS:**
1. FR care
- Consider ALS rendezvous for pain management

- ILS:**
1. FR/BLS care
 2. IV of Normal Saline TKO
 3. **See Pain Protocol**

- ALS:**
1. FR/BLS/ILS care
 2. Consider Morphine Sulfate, 2-10 mg IV slow, titrated to pain relief. **Refer to pain protocol.**
NOTE: Do not give morphine if systolic blood pressure is less than 90

AMPUTATIONS

FR/BLS:

1. Routine Trauma Care
2. Control hemorrhage. If unable to control, immediate and rapid transport is essential.
3. If partial amputation, splint in anatomic position and elevate extremity.
4. Dress and package both amputated part and stump for transport if complete amputation.
dress stump with dry sterile dressing
gross contaminants on the amputated part may be removed by rinsing the part with normal saline.
no attempt should be made to debride or otherwise clean the amputated part.
The part should be placed in a plastic bag and tightly sealed to prevent direct contact with liquid substances. The amputated part should then be submerged in iced water or saline.

- ILS:**
1. FR/BLS care
 2. IV of Normal Saline TKO
 3. **See Pain Protocol**

- ALS:**
1. FR/BLS/ILS care
 2. Consider Morphine Sulfate, 2-4 mg IV slow. **Refer to pain protocol.**
NOTE: Do not give morphine if systolic blood pressure is less than 90

Pain Control Protocol

FR/BLS:

1. Routine Medical Care
2. Assess level of pain using the Pain Assessment Scale (1-10) or the Wong-Baker Faces Pain rating scale
3. Place patient in position of comfort
4. Reassure the patient
5. Consider ice or splinting
6. Reassess level of pain using approved scale
7. Consider ALS intercept for pain control

ILS:

1. Continue FR/ BLS care as above
2. Initiate IV Normal Saline 1000mL TKO
3. In cases of **isolated extremity fractures, chest pain, burns and discomfort from IO infusion, pain medication may be given without calling medical control if the systolic BP > 90mmHg.**
**All other situations must obtain Medical Control approval.
4. Toradol 30 mg IV or 60 mg IM **May be given separately or in addition to Morphine Sulfate for severe pain.**
Note: Do not give Toradol to patients with renal disease or failure. Decrease dose to 15mg IV or 30 mg IM for patients older than 65 or less than 50 kg.
5. Zofran 4mg IV slowly over 2 minutes for nausea
- **6. Morphine Sulfate 2-4 mg IV slowly

ALS:

1. Continue ILS care as above
2. In cases of **isolated extremity fractures, chest pain, burns and discomfort from IO infusion, pain medication may be given without calling medical control if the systolic BP > 90mmHg.**
**All other situations must obtain Medical Control approval.
3. Morphine Sulfate 2-5 mg IV every 5 minutes to reduce the patient's anxiety and severity of pain. If unable to establish IV, may administer Morphine 2-5 mg IM once.
4. Toradol 30 mg IV or 60 mg IM **May be given separately or in addition to Morphine Sulfate for severe pain**
Note: Do not give Toradol to patients with renal disease or failure. Decrease dose to 15mg IV or 30 mg IM for patients older than 65 or less than 50 kg.
5. Zofran 4mg IV slowly over 2 minutes for nausea.
- **6. Repeat Zofran as above for continued nausea or vomiting.












NOTES:

- Monitor the patient for respiratory depression when administering narcotics.
- Blood pressure should be monitored closely – check every 5 minutes
- Verify patient is not allergic to medications before giving
- Patients with a head injury/ altered LOC or patients with unstable patients **should not receive pain medications**
- Pain medication for abdominal pain cannot be given without Medical Control order

MODERATE

UNIVERSAL PAIN ASSESSMENT TOOL

This pain assessment tool is intended to help patient care providers assess pain according to individual patient needs. Explain and use 0-10 Scale for patient self-assessment. Use the faces or behavioral observations to interpret expressed pain when patient cannot communicate his/her pain intensity.

	0	1	2	3	4	5	6	7	8	9	10
Verbal Descriptor Scale	NO PAIN	MILD PAIN	MILD PAIN	MODERATE PAIN	MODERATE PAIN	MODERATE PAIN	SEVERE PAIN	SEVERE PAIN	SEVERE PAIN	SEVERE PAIN	WORST PAIN POSSIBLE
WONG-BAKER FACIAL GRIMACE SCALE											
ACTIVITY TOLERANCE SCALE	NO PAIN	CAN BE IGNORED	CAN BE IGNORED	INTERFERES WITH TASKS	INTERFERES WITH TASKS	INTERFERES WITH CONCENTRATION	INTERFERES WITH CONCENTRATION	INTERFERES WITH BASIC NEEDS	INTERFERES WITH BASIC NEEDS	INTERFERES WITH BASIC NEEDS	BEDREST REQUIRED
SPANISH	NADA DE DOLOR	UNPOQUITO DE DOLOR	UNPOQUITO DE DOLOR	UN DOLOR LEVE	UN DOLOR LEVE	DOLOR FUERTE	DOLOR FUERTE	DOLOR DEMASIADO FUERTE	DOLOR DEMASIADO FUERTE	DOLOR DEMASIADO FUERTE	UN DOLOR INSOPORTABLE
TAGALOG	Walang Sakit	Konting Sakit	Konting Sakit	Katamtamang Sakit	Katamtamang Sakit	Matinding Sakit	Matinding Sakit	Pinaka-Matinding Sakit	Pinaka-Matinding Sakit	Pinaka-Matinding Sakit	Pinaka-Maalang Sakit
CHINESE	不痛	輕微	輕微	中度	中度	嚴重	嚴重	非常嚴重	非常嚴重	非常嚴重	最嚴重
KOREAN	통증 없음	약한 통증	약한 통증	보통 통증	보통 통증	심한 통증	심한 통증	아주 심한 통증	아주 심한 통증	아주 심한 통증	최악의 통증
PERSIAN (FARSI)	بدون درد	درد ملایم	درد ملایم	درد معتدل	درد معتدل	درد شدید	درد شدید	درد بسیار شدید	درد بسیار شدید	درد بسیار شدید	بدترین درد ممکن
VIETNAMESE	Không Đau	Đau Nhẹ	Đau Nhẹ	Đau Vừa Phải	Đau Vừa Phải	Đau Nặng	Đau Nặng	Đau Thật Nặng	Đau Thật Nặng	Đau Thật Nặng	Đau Đớn Tận Cùng
JAPANESE	痛みがない	少し痛い	少し痛い	いくらか痛い	いくらか痛い	かなり痛い	かなり痛い	ひどく痛い	ひどく痛い	ひどく痛い	ものすごく痛い

**OBSTETRIC/GYNECOLOGIC PROTOCOLS
PRE-ECLAMPSIA, ECLAMPSIA, TOXEMIA**

Definition: Coma and convulsive seizures or systolic BP greater than 140, diastolic greater than 90, occurring between the 20th week of pregnancy and the end of the first week postpartum.

FR/BLS:

1. Assure an airway, ventilate as needed
2. Routine Medical care
3. Assure minimal stimulation (handle gently, do not check pupil reaction with light)
4. If patient is having seizures, follow seizure protocol (page 41)

- ILS:**
1. FR/BLS care
 2. IV of NS at TKO rate

- ALS:**
1. FR/BLS/ILS care
 - **2. Magnesium sulfate, 2-4 grams slowly IV given at a rate not to exceed 1 gram/minute (Do not lower BP to less than 130/80)

NOTE: Calcium chloride is useful for magnesium sulfate overdose

OBSTETRIC/GYNECOLOGIC PROTOCOLS
CHILDBIRTH: NORMAL DELIVERIES
IMPENDING DELIVERY

FR/BLS:

1. Routine Medical Care (page 64)
2. Obtain a complete history
 - length of gestation (# of months pregnant)
 - previous pregnancies (gravida)
 - # of children from previous pregnancies (para)
 - due date
 - history of complications of pregnancy
 - is there pain?
 - is the patient having contractions?
 - what is frequency of contractions?
 - membranes intact or ruptured?
 - is the patient anticipating multiple births?
 - estimate quantity bleeding, if present (e.g., # of pads)
 - high risk factors¹
 - twins or multiple births
3. Position patient on left side if 2nd or 3rd trimester. Elevate feet 10-12 inches if hypotensive

ILS:

1. FR/BLS Care
2. IV Normal Saline (1000 ml) with macrodrip tubing, TKO (if indicated)
3. If hypotensive, give 250 ml of fluid
4. Monitor EKG, if indicated

- ALS:** 1. FR/BLS/ILS Care

¹High risk factors include:

- lack of prenatal care
- drug abuse
- teenage pregnancy (mid- to early-teens)
- history of diabetes
- hypertension
- cardiac diseases
- previous breech or c-section deliveries
- pre-eclampsia, eclampsia or toxemia

OBSTETRIC/GYNECOLOGIC PROTOCOLS CHILDBIRTH: NORMAL DELIVERIES

FR/BLS/ILS/ALS:

If field delivery is imminent, allow delivery to progress spontaneously:

1. Support baby's head so that it doesn't emerge too quickly.
2. Tear amniotic membrane, if it is still intact and visible outside the vagina.
3. Check for cord around neck. If cord is around neck, try to slip it over the shoulder and head. If unable to remove the cord from around neck, place umbilical clamps 2 inches apart and cut cord between clamps.
4. The baby will be wet and slippery. Carefully support head throughout delivery. Suction baby's mouth and nose with bulb syringe as soon as head emerges.
5. Tell the mother to resume pushing. Support the head as it rotates. A slight lowering of the baby to allow delivery of the anterior (top) shoulder, and then gentle lifting to allow delivery of the posterior (bottom) shoulder may be helpful. The baby should delivery completely.

AFTER DELIVERY

CARE OF INFANT

See Newborn Resuscitation protocol (page 65)

CARE OF MOTHER

FR/BLS:

1. Routine Medical Care
2. Placenta should deliver in 20-30 minutes. Do not delay transport while waiting for placenta to deliver
3. Observe for excessive bleeding

ILS:

1. FR/BLS Care
2. IV Normal Saline (1000 ml) with macrodrip tubing, TKO if systolic BP is above 100 systolic
3. IV Normal Saline (1000 ml) with macrodrip tubing, wide open if systolic blood pressure is below 100 systolic.

ALS: 1. FR/BLS/ILS care

OBSTETRIC/GYNECOLOGIC PROTOCOLS
SEVERE VAGINAL HEMORRHAGE
(Postpartum or Miscarriage)

- FR:**
1. Assure an airway, ventilate as needed
 2. Routine Medical Care
 5. Place a sanitary napkin over the vaginal opening. Make a note for the time the napkin was placed. Remove pads as they become soaked, but save all pads to use in evaluating blood loss.
 6. Save all tissue that is passed.
 7. Massage fundus of uterus to keep firm and contracted.
 6. If patient becomes hypotensive, position patient on left side with legs elevated.

- BLS:**
1. FR care
- Promptly transport patient.

- ILS:**
1. FR/BLS Care
 2. IV Normal Saline (1000 ml) with macrodrip tubing, TKO if systolic BP is above 90.
 3. IV Normal Saline (1000 ml) with macrodrip tubing, wide open if systolic blood pressure in below 90.

- ALS:**
1. FR/BLS/ILS Care

OBSTETRIC/GYNECOLOGIC PROTOCOLS ABNORMAL DELIVERIES

Prolapsed Cord

FR:

1. Routine Medical Care.
2. **Oxygen** via nasal cannula 4 Liters per minute

BLS:

1. Continue First Responder care
2. Transport immediately.
3. Place mother in knee-chest position or in a supine position with hips elevated on pillow.
4. Protect cord from being compressed by place in sterile gloved hand in vagina between pubic bone and presenting part with cord between fingers and exert counter pressure against present part. Keep hand in position until relieved.
5. Palpate cord for pulsations.
6. DO NOT ATTEMPT TO PUSH CORD BACK.
7. Keep exposed cord moist and warm.

ILS/ALS:

1. Continue BLS care.
2. IV of NS at TKO rate enroute.

Breech Presentation

FR/BLS/ILS/ALS:

1. Routine Medical Care.
2. **Oxygen** via nasal cannula 4 Liters per minute
3. Transport immediately.
4. Never attempt to pull the baby from the vagina by the legs or trunk.
5. As soon as legs are delivered, support baby's body.
6. After shoulders are delivered, gently elevate trunk and legs to aid in delivery of head (if face down).
7. Head should deliver in 30 seconds. If not - reach 2 fingers into the vagina to locate the infant's mouth. Press vaginal wall away from baby's mouth to force an airway. Apply gentle pressure to the mother's fundus.

PEDIATRIC PROTOCOL NEWBORN RESUSCITATION

FR/BLS:

1. Hold infant at level of mother.
2. Suction mouth then nose with bulb syringe.
3. Determine APGAR score at 1 minute.
4. After the umbilical cord stops pulsating, clamp it 6 and 8 inches from the newborn's abdominal wall and cut the cord between the clamps with a sterile scalpel or scissors. (If no sterile cutting instrument is available, do not cut the cord. Lie the infant, with cord clamped, on the mother's abdomen).
5. Check the cord ends for bleeding. If there is any bleeding from the cord, re-clamp in another place close to the original clamp.
6. Place infant on a flat surface in sniffing, Trendelenburg position - use jaw thrust maneuver to open airway.
7. Dry, warm, and vigorously stimulate infant for several minutes if necessary.
8. Determine APGAR score at 5 minutes.

NOTE: Most infants will not need intervention beyond this point.

9. If baby is lethargic, respiratory effort is inappropriate (rate less than 40 breaths per minute, no cry or weak cry) or cyanosis is present on baby's body:
 - a. Oxygen, 6 liters/minute (hold mask above infant's mouth and nose).
 - b. Gently ventilate with bag-valve-mask and 100% oxygen for 15-30 seconds, if no response to oxygen after 1 minute.
 - c. Evaluate the baby's heart rate. If less than 80, initiate chest compressions.
 - d. Re-evaluate after 1 minute.

ILS: 1. FR/BLS care.

ALS: 1. FR/BLS/ILS care.
2. If pulse is 100 or less despite bagging, intubate.

APGAR SCORING			
SIGN	SCORE		
	0	1	2
Heart Rate	Absent	Less than 100	Greater than 100
Respirations	Absent	Slow	Greater than 40
Muscle Tone	Limp	Some Flexion	Vigorous
Reflex Irritability	None	Grimace	Grimace
Color	Diffusely Pale/Blue	Centrally Pink	Completely Pink

OBSTETRIC/GYNECOLOGIC PROTOCOLS RAPE/SEXUAL ASSAULT

FR/BLS/ILS/ALS:

1. Ensure scene safety. Survey the scene giving special consideration to preserving any articles of evidence on or around the patient.
 - a. Discourage patient from changing clothes, urinating or washing/showering.
 - b. Collaborate with police to determine what articles (e.g., clothing) will be transported with the patient.
 - c. Do not physically examine genital area unless there are apparent injuries which need treatment.
 - d. All linen used by the patient should be left with the patient at the Emergency Department.
2. IF PATIENT IS INJURED: Routine Trauma Care
IF NO OBVIOUS INJURIES: Routine Medical Care
3. Notify law enforcement (if not already at scene).
4. Only ask questions pertinent to injury.
5. See Reporting of Suspected Crime Policy/Procedure.

SUSPECTED DOMESTIC ABUSE/NEGLECT¹

FR/BLS/ILS/ALS:

1. General Approach:
 - a. Consider scene safety issues.
If the offender is present and interferes with transportation of the patient or is influencing the patient's acceptance of medical care, contact police and medical control for consultation on appropriate action.
 - b. Routine medical/trauma care.
 - c. Treat obvious injuries or illnesses.
 - d. Survey scene for evidence of abuse/neglect:
 - 1) Environmental.
 - 2) Interaction with family members.
 - 3) Discrepancies in history events.
 - 4) Injury patterns that do not correlate with the history of patient use and mobility.
 - 5) Signs of intentional injury or emotional harm.
2. Transport.
3. EMT's are not mandated to report suspected domestic abuse, but are required to discretely offer the victim information on where assistance may be obtained.
4. Thoroughly document the history and physical exam findings on the Pre-hospital report.

¹ - As with all patients, confidentiality is of the utmost importance. No suspicion or accusations of abuse should be transmitted over the radio.

STANDING MEDICAL ORDERS FOR SPECIAL SITUATIONS SUSPECTED ELDER ABUSE/NEGLECT¹

FR/BLS/ILS/ALS:

1. General Approach:
 - a. Consider scene safety issues.
If the offender is present and interferes with transportation of the patient or is influencing the patient's acceptance of medical care, contact police and medical control for consultation on appropriate action.
 - b. Routine medical/trauma care.
 - c. Treat obvious injuries or illnesses.
 - d. Survey scene for evidence of abuse/neglect:
 - 1) Environmental.
 - 2) Interaction with family members.
 - 3) Discrepancies in history events.
 - 4) Injury patterns that do not correlate with the history of patient use and mobility.
 - 5) Signs of intentional injury or emotional harm.
2. Transport.
3. Upon arrival, notify the receiving physician or nurse of the suspected abuse. Healthcare workers (including EMT's) are mandated by Illinois law to report cases of suspected abuse or neglect. You May contact the Elderly Abuse Hotline 1-800-252-4343.
4. Thoroughly document the history and physical exam findings on the Pre-hospital report.

¹ - As with all patients, confidentiality is of the utmost importance. No suspicion or accusations of abuse should be transmitted over the radio.

**MCLEAN COUNTY AREA EMS SYSTEM
EMS MEDICAL DIRECTOR'S APPROVED MEDICATION LIST**

ALS

Medication	Strength/Volume	Container	Total
Adenosine (Adenocard)	6 mg/2 ml	Vial/Prefilled Syringe	7
Albuterol (Proventil)	2.5 mg/3 ml	Vial	6
Aspirin, Chewable	81 mg/tablet	36 tablets/bottle	2
Atropine	1 mg/10 ml	Prefilled Syringe	10
Calcium Chloride	1 gm/10 ml	Prefilled Syringe	3
Cetacaine	56 grams	Spray Bottle	2
Dextrose 50%	25 gm/50 ml	Prefilled Syringe	4
Diazepam (Valium)	10 mg/2 ml	Vial/Prefilled Syringe	4
Diphenhydramine (Benadryl)	50 mg/1 ml	Vial/Prefilled Syringe	4
Dopamine (Intorpin)	400 mg/ 250 ml	Premix Bag	2
Epinephrine (1:10,000)	1 mg/10 ml	Prefilled Syringe	12
Epinephrine (1:1000)	1 mg/1 ml	Ampule/Tubex	3
Epinephrine (1:1000)	30 mg/30 ml	Vial	2
Furosemide (Lasix)	100 mg/10 ml	Prefilled Syringe	3
Glucagon	1 mg/1 unit	Vials for Dilution	3
Ipratropium (Atrovent)	0.5 mg (2.5ml)	Vial	6
Ketorolac tromethamine (toradol)	30 mg/ml	Vial	4
Lidocaine (Xylocaine)	100 mg/5 ml	Prefilled Syringe	11
Lidocaine Infusion	1 gm/250 ml	Premix Bag	2
Lorazepam (Ativan)	2 mg/1ml	Vial	2
Magnesium Sulfate 50%	5 gm/10 ml	Vial/Prefilled Syringe	2
Methylprednisolone(Solu-medrol)	125mg Act-O-Vial®	Act-O-Vial®	2
Morphine Sulfate	10 mg/1 ml	Tubex	2
Naloxone (Narcan)	2 mg/2 ml	Ampule	6
Neosynephrine (ES)	1% (15 ml)	Single use bottle	2
Nitroglycerin	0.4 mg/1 spray	Metered Spray	2
Ondansetron hydrochloride (Zofran) (Injectable)	2mg/ml	Vial	2
Procainamide (Pronestyl)	1 gm/10 ml	Vial	3
Proparacaine (Alcaine)	0.5% (15 ml)	Bottle	2
Racemic Epinephrine 2.25%	0.5 ml in 2ml NS	Vial	2
Sodium Bicarbonate	50 mEq/50 ml	Prefilled Syringe	3
Thiamine	100 mg/1 ml	Vial	2
Midazolam HCL (Versed)	5mg/5ml	Vial/Prefilled Syringe	4
Vasopressin (Pitressin)	20 units/1ml	Vial	4

	ILS		
Medication	Strength/Volume	Container	Total
Adenosine (Adenocard)	6 mg/2 ml	Vial/Prefilled Syringe	7
Albuterol (Proventil)	2.5 mg/3 ml	Vial	6
Aspirin, Chewable	81 mg/tablet	36 tablets/bottle	2
Atropine	1 mg/10 ml	Prefilled Syringe	10
Dextrose 50%	25 gm/50 ml	Prefilled Syringe	4
Diazepam (Valium)	10 mg/2 ml	Vial/Prefilled Syringe	4
Epinephrine (1:10,000)	1 mg/10 ml	Prefilled Syringe	12
Epinephrine (1:1000)	1 mg/1 ml	Ampule/Tubex	3
Furosemide (Lasix)	100 mg/10 ml	Prefilled Syringe	3
Glucagon	1 mg/1 unit	Vials for Dilution	3
Ketorlorac (Toradol)	30mg/ml	Vial	2
Lidocaine (Xylocaine)	100 mg/5 ml	Prefilled Syringe	11
Lidocaine Infusion	1 gm/250 ml	Premix Bag	2
Morphine Sulfate	10 mg/1 ml	Tubex	2
Naloxone (Narcan)	2 mg/2 ml	Ampule	6
Nitroglycerin	0.4 mg/1 spray	Metered Spray	2
Ondansetron (Zofran)	2mg/ml	Vial	2
Proparacaine (Alcaine)	0.5% (15 ml)	Bottle	2
	BLS		
Medication	Strength/Volume	Container	Total
Albuterol (Proventil)	2.5 mg/3 ml	Vial	6
Aspirin, Chewable	81 mg/tablet	36 tablets/bottle	2
Epi Pen Adult	0.3mg	Auto injector	2
Epi Pen Jr.	0.15 mg	Auto injector	1
Glucagon	1 mg/1 unit	Vials for Dilution	4
Naloxone (Narcan)	2 mg/2 ml	Ampule	6
Nitroglycerin	0.4 mg/1 spray	Metered Spray	2