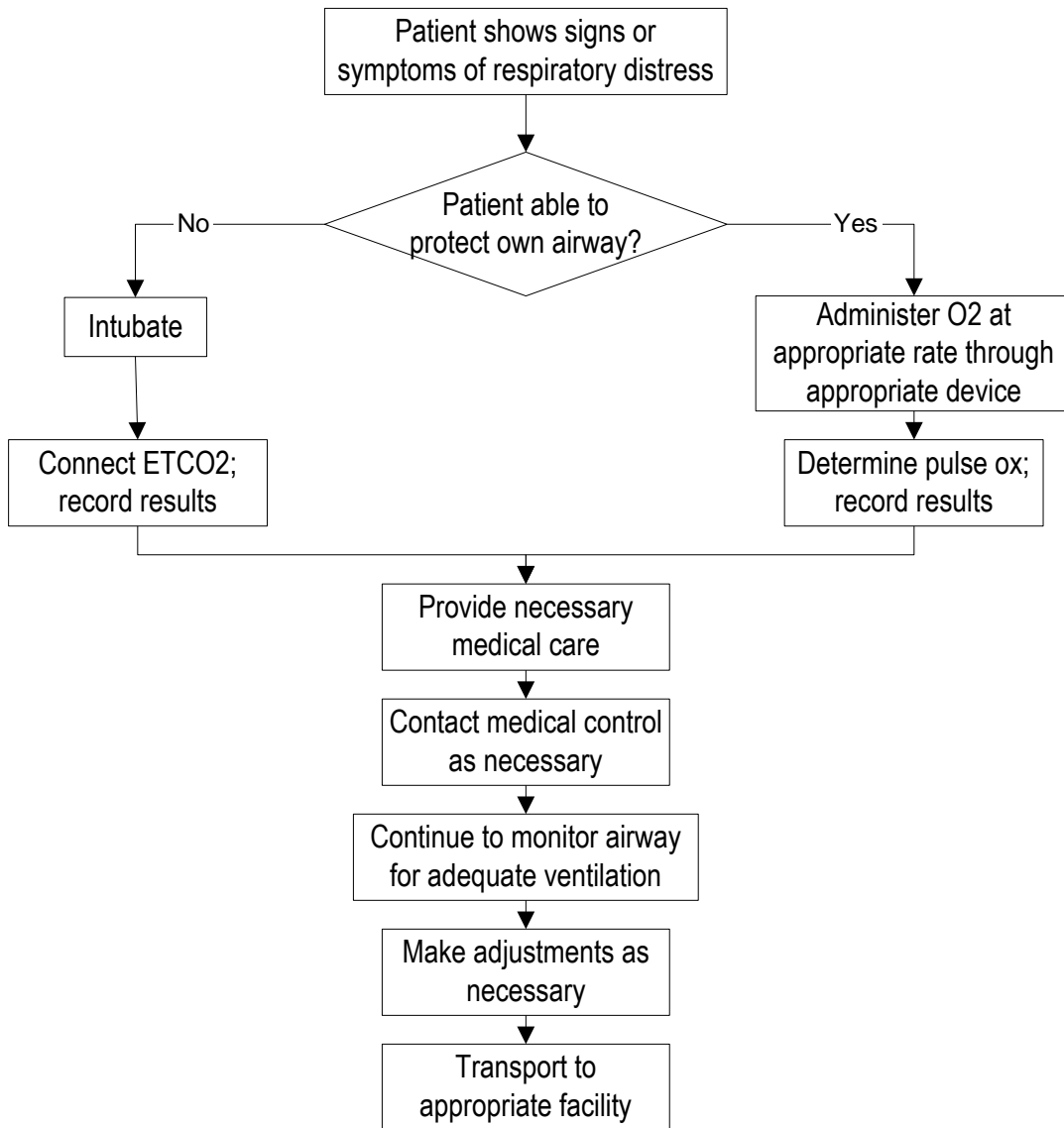


Initial: 9/12/01
Reviewed/revised: 6/1/06
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
AIRWAY MONITORING**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



NOTES:

- Normal room air oxygen saturation (pulse ox) is 94 – 100%.
- A normal ETCO2 reading is 33 - 43 mm Hg.
- Ventilation rate is 10 breaths/minute for victims of cardiac arrest.

Initiated: 7/94
Reviewed/revised: 5/10/00
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
APPROVED ABBREVIATIONS**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 2

ā	Before	DKA	diabetic ketoacidosis
AAA	abdominal aortic aneurysm	DOA	dead on arrival
Abd	abdomen	DOE	dyspnea on exertion
ACS	acute coronary syndrome	DM	diabetes mellitus
AED	automatic external defibrillator	d/t	due to
AHA	American Heart Association	dx	diagnosis
AIDS	acquired immune deficiency syndrome	EBL	estimated blood loss
ALOC	altered level of consciousness	ED	emergency department
ALS	advanced life support	e.g.	for example
AMA	against medical advice	ECG	electrocardiogram
AMI	Acute myocardial infarction	epi	epinephrine
Amp	ampule	ET	endotracheal
Amt	amount	eval	evaluation
Ant	anterior	exam	examination
Approx	Approximately	F°	Fahrenheit
ARC	AIDS related complex	FB	foreign body
ASAP	as soon as possible	freq	frequency
ASHD	arteriosclerotic heart disease	Fx	fracture
BBB	bundle branch block	GI	gastrointestinal
BLS	basic life support	gm	gram
BP	blood pressure	GSW	gunshot wound
BS	blood sugar	gtts	drops
BS	breath sounds	hr	hour
c	with	Hep A	Hepatitis A (HAV)
C°	Celsius	Hep B	Hepatitis B (HBV)
CA	cancer	Hep C	Hepatitis C (HCV)
CABG	coronary artery bypass graft	HHN	hand held nebulizer
CAD	coronary artery disease	HIV	human immunodeficiency virus
Cath	catheter	H&P	history and physical exam
cc	cubic centimeter	HPI	history of present illness
CC	chief complaint	HTN	hypertension
Chemo	chemotherapy	Hx	history
CHF	congestive heart failure	IDDM	Insulin dependent diabetes mellitus
Cl	chloride	IM	Intramuscular
cm	centimeter	incr	increasing
CNS	central nervous system	inf	inferior
c/o	complaining of	IO	intraosseous
COPD	chronic obstructive pulmonary disease	IV	intravenous
CPR	Cardiopulmonary resuscitation	JVD	jugular vein distention
CRT	capillary refill time	kg	kilogram
c-section	Cesarean section	(L)	left
c-spine	cervical spine	lac	laceration
CSF	cerebrospinal fluid	lat	lateral
CSM	circulation, sensation, movement	lb	pound
CVA	cerebrovascular accident	LMP	last menstrual period
D&C	dilatation & curettage	LOC	level of consciousness
d/c	discontinue	loc	loss of consciousness
dec	decreased		

Initiated: 7/94
Reviewed/ revised: 5/10/00
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
APPROVED ABBREVIATIONS**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 2 of 2

L-spine	lumbar spine	pt.	patient
MAST	military anti-shock trousers	PTA	prior to arrival
max	maximum	PVC	premature ventricular contraction
mcg	microgram	q	every
MD	medical doctor	R	respirations
mg	milligram	rt	right
MI	myocardial infarction	®	right
misc	miscellaneous	R/O	rule out
ml	milliliter	Rx	treatment
mm	millimeter	s	without
mod	moderate	SIDS	sudden infant death syndrome
mos	months	sig.	significant
N/A	not applicable	SL	sublingual
NAD	no acute distress	SOB	shortness of breath
neg	negative	SOC	standard of care
NG	nasogastric	SPS	standard for practical skill
NIDDM	non-insulin dependent diabetes mellitus	SQ	subcutaneous
NKA	no known allergies	subQ	subcutaneous
no.	number	S/Sx	signs and symptoms
NPO	nothing by mouth	stat	immediately
NSR	normal sinus rhythm	Sx	symptom
NTG	nitroglycerin	temp	temperature
N&V	nausea and vomiting	TB	tuberculosis
occ	occasional	TBSA	total body surface area
Oriented X3	oriented to time, place, person	TKO	to keep open
os	mouth	Tx	transport
oz	ounce	unk	unknown
p	after	URI	upper respiratory infection
P	pulse	VT	Ventricular tachycardia
PAC	premature atrial complex	VF	ventricular fibrillation
PAD	public access defibrillation	VS	vital signs
PASG	pneumatic anti-shock garment	w/	with
palp	palpation	w/o	without
PE	physical examination	WO	wide open
PE	pulmonary edema	y/o	year old
PE	pulmonary embolus	♂	male
PERL	pupils equal, reactive to light	♀	female
PJC	premature junctional contraction	↑	increased, improved
PMD	private (Personal) medical doctor	↓	decreased, worsened
PMH	past medical history	∅	none
PNB	pulseless non-breather	>	greater than
PND	paroxysmal nocturnal dyspnea	<	less than
POC	position of comfort		
pos	positive		
PP	policy/procedure		
PRN	as necessary		

Initiated: 9/92
Reviewed/revise: 5/10/00
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
ASSESSMENT PARAMETERS**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

Assessment	Likely History	Usual Signs/Symptoms	NOTES:
Respiratory Problem	Asthma COPD Chronic bronchitis Recent respiratory infection CHF	Difficulty breathing Increased or decreased respiratory rate Increased or decreased respiratory effort Abnormal breath sounds; retractions, nasal flaring Grunting, stridor, drooling, pursed lip breathing Short word strings	Lung/breath sounds are described and documented as clear, wet, decreased, absent, wheeze, or congested Respiratory effort is described and documented as normal, increased effort, decreased effort, or absent.
Cardiac Problem	MI Arrhythmia CHF CVA/TIA Hypertension	Chest pain with or without associated symptoms Absent or muffled heart tones Weak, irregular, or absent pulses Hypertension or hypotension Abnormal single or 12 lead ECG Prolonged capillary refill time; jugular vein distention Abnormal skin temperature or color Dehydration or edema	Heart tones are described and documented as present, absent, or muffled. Pulses are described and documented as full, weak, regular, irregular, or absent. Blood pressures should be auscultated whenever possible, palpated only when necessary. Skin temperature is described and documented as normal, hot, cool, diaphoretic, pale, flushed, cyanotic, jaundiced, or dehydrated. Pitting edema is the presence of a "pit" still visible after a finger is removed from an indentation made with that finger into the tissue. Note any cardiac medications the patient may be taking to help establish history.
Neurologic Problem	CVA/TIA Diabetic complications Recent trauma Coma	Altered level of consciousness Disoriented Inability to follow commands Pupils unequal, unreactive, pinpoint or dilated Paralysis, numbness, weakness, or absence of peripheral circulation, sensation or movement	Consider ALS transport to the Trauma center for any patient with any of the above symptoms due to traumatic injury.
Musculo-Skeletal Problem	Recent trauma Arthritis Chronic back pain Spinal/disc problems Recent surgery	Pain Decreased range of motion Paralysis, numbness, weakness or absence of peripheral circulation, sensation or movement change in normal tissue color or temperature Deformity, crepitus, soft tissue injury Swelling	Patients with two or more long bone (humerus, femur) fractures require ALS transport to the Trauma Center.
Abdominal problem	Ulcers Obstruction Recent surgery Renal disease Liver disease Pancreatic disease	Pain Nausea, vomiting, fever Change in elimination patterns Guarding, rigidity Hematemesis, melena Distention	
Gynecologic problem	Previous surgery Gynecologic problems/infection Pregnancies - live births/complications Last menstrual period	Pain Vaginal bleeding, discharge	
Labor Pre-eclampsia Toxemia	Pregnancies Prenatal care Toxemia Ectopic pregnancy Abortion - spontaneous/induced Last menstrual period	Pain/cramping Ruptured membranes Crowning Vaginal bleeding Hypertension with or without seizures	Patients experiencing complicated childbirth with any of the following must be transported by ALS: excessive bleeding, amniotic fluid contaminated by fecal material, multiple births, premature imminent delivery, abnormal fetal presentation (breech), prolapsed umbilical cord, newborn with a pulse less than 140, flaccid newborn or with a poor cry.

Initiated: 7/94
Reviewed/revise: 5/10/00
Revision: 2

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
DECONTAMINATION OF
NON-DISPOSABLE EQUIPMENT**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

Every effort will be made to reduce the risk of transmitting potentially communicable diseases to our patients.

- Laryngoscope blades, Magill forceps, obturators and other metal objects in contact with the airway of a patient are to be scrubbed with hot water and soap to remove all secretions, rinsed thoroughly and then soaked for a minimum of 20 minutes in 1:10 dilution of 5.25% sodium hypochlorite (bleach) or 70% Isopropyl alcohol. A fresh solution should be used for each disinfection and the metal rinsed with water and air-dried before reuse.

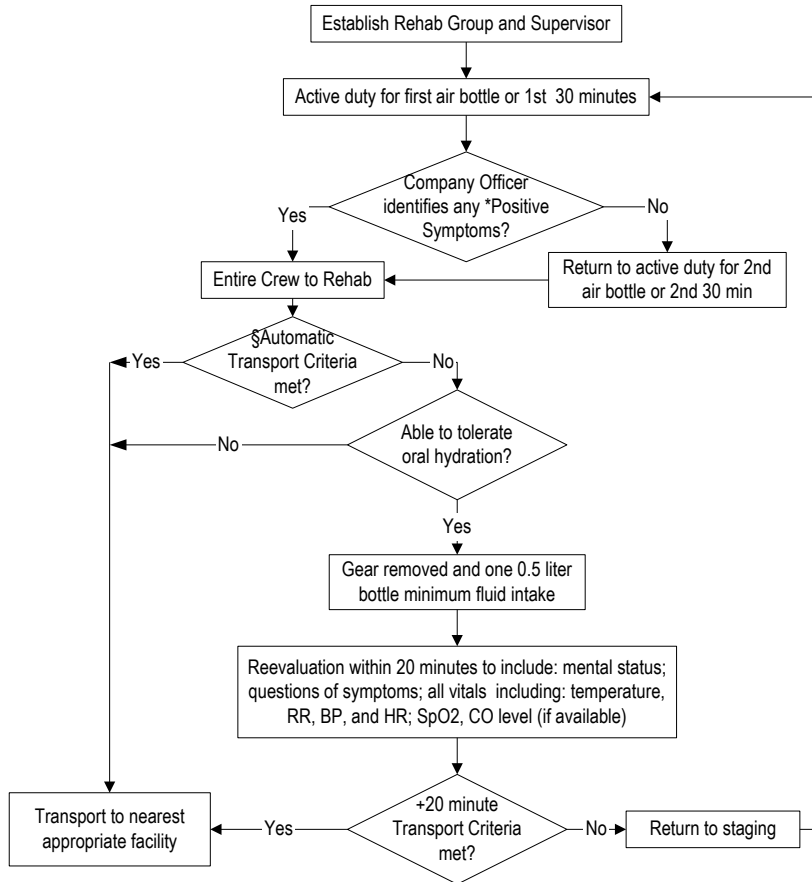
NOTES:

- No equipment is to be cleaned in a sink used in food preparation, cleanup or routine handwashing.
- The following equipment is required to be used on a one-time bases:
 - ◆ Bag-valve mask
 - ◆ Endotracheal tube
 - ◆ Oxygen tubing
 - ◆ Oral airway
 - ◆ Nasopharyngeal airway
 - ◆ Suction tubing
 - ◆ Pocket mask

Initiated: 2/27/02
 Reviewed/revise: 5/21/08
 Revision: 1

**MILWAUKEE COUNTY EMS
 STANDARD OF CARE
 EMERGENCY INCIDENT
 REHABILITATION**

Approved by: Ronald Pirrallo, MD, MHSA
 Signature:
 Page 1 of 1



Transport Criteria Based on ALS Evaluation of Signs or Symptoms

*Positive Symptoms	§Automatic Transport Criteria	+20-Minute Transport Criteria
<ul style="list-style-type: none"> • Headache • Dizziness • Nausea/vomiting • Vision abnormalities • Paresthesias (numbness and/or tingling) 	<ul style="list-style-type: none"> • Chest pain • Confusion • Shortness of breath • Palpitations or irregular heart beat sensations 	<ul style="list-style-type: none"> • Any Automatic Transport Criteria • Any Positive Symptoms • HR 120 or greater • SBP 200 or greater OR 90 or less • T101 or greater OR 97 or less • RR 30 or greater • CO level greater than 10% • SpO₂ level less than 94

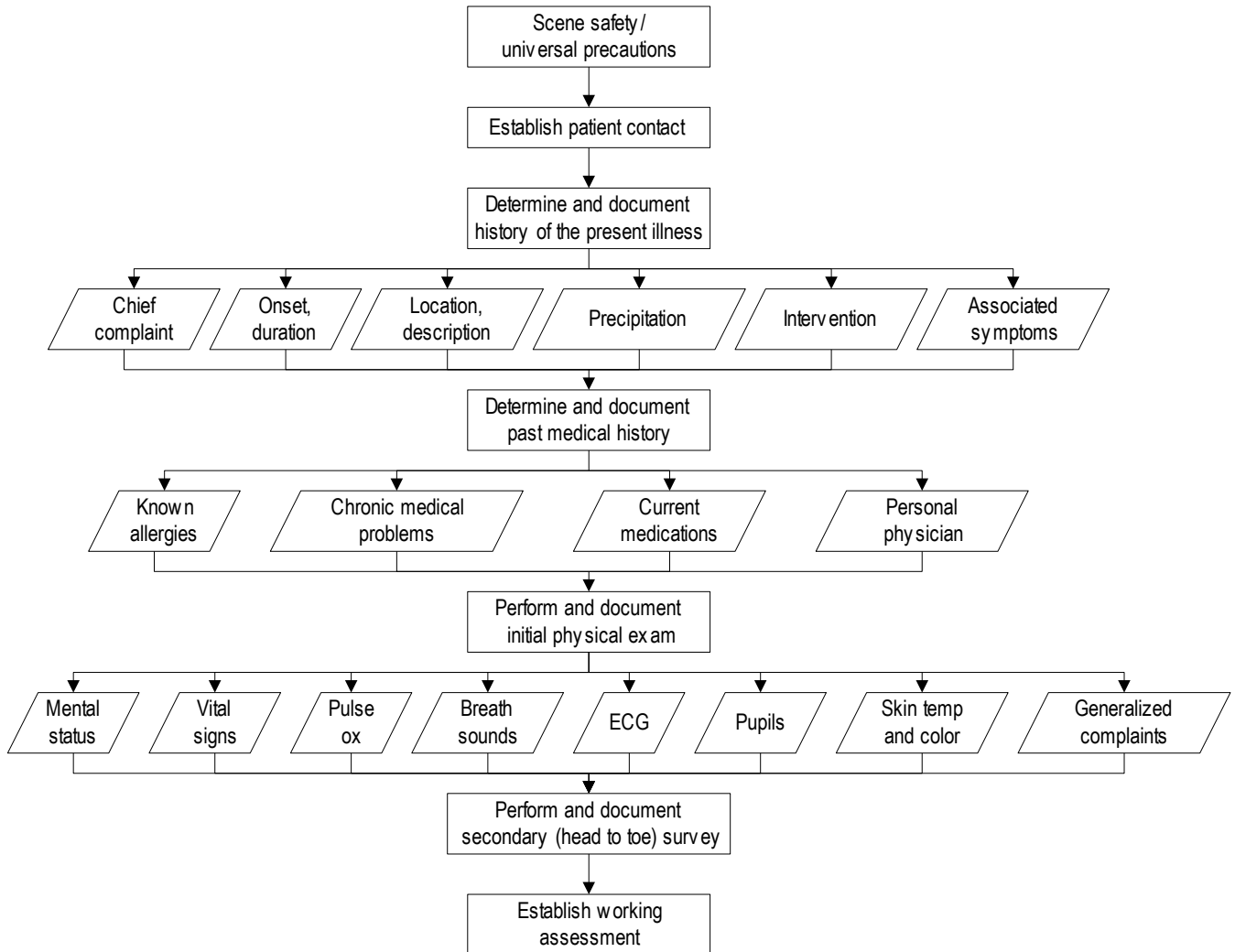
NOTES:

- After the first air bottle, the entire crew must report to rehab if any member reports positive symptoms. Symptomatic crewmembers must remain in rehab; other nonsymptomatic crewmembers are to report as directed by Group Supervisor.
- The Incident Safety Officer is responsible for assessment of the Company Officer for positive symptoms.
- Document according to department standards: date and incident identifier; names of personnel triaged; entrance and exit times; all vital signs documented; injuries and/or symptoms; disposition.
- Rehydration should continue after the incident with additional 1–2 liters consumed over the next 4 hours.

Initiated: 9/92
Reviewed/revised: 9/12/01
Revision: 2

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
HISTORY & PHYSICAL EXAM**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



NOTES:

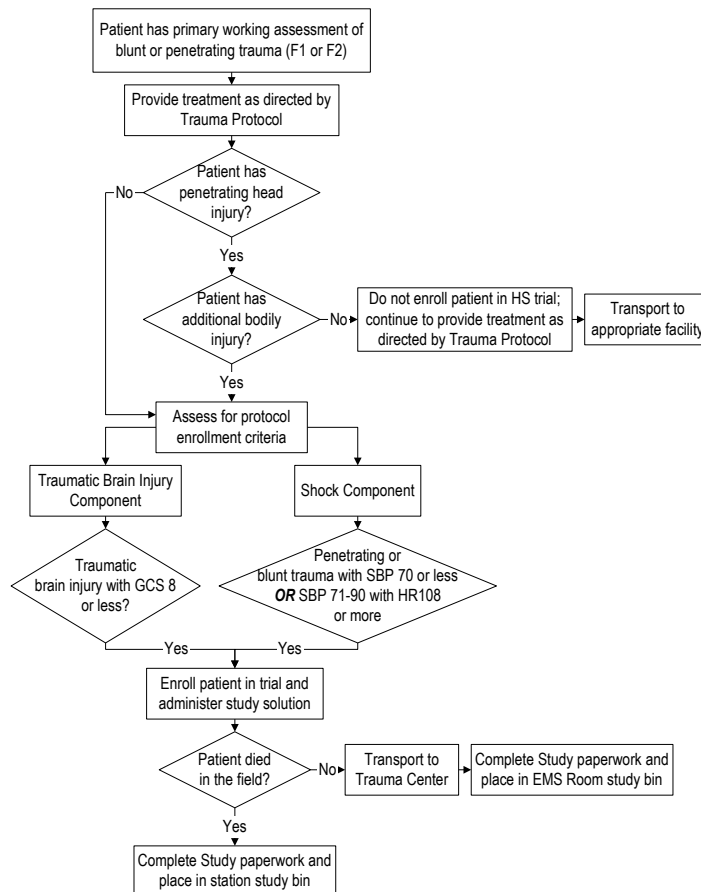
- Patients should be encouraged to describe the situation in their own words.
- Normal room air oxygen saturation (pulse ox) is 94 – 100%.

Initiated: 7/31/07
 Reviewed/revised: 2/13/08
 Revision: 1

**MILWAUKEE COUNTY EMS
 STANDARD OF CARE
 HYPERTONIC SALINE TRIAL
 ENROLLMENT**

Approved by: Ronald Pirrallo, MD, MHSA
 Signature:
 Page 1 of 1

History	Signs/Symptoms	Working Assessment	Enrollment Exclusion Criteria
Patient sustained blunt or penetrating trauma	<u>Traumatic Brain Injury Component</u> -GCS is 8 or less <u>Shock Component</u> -Systolic BP is less than or equal to 70 <u>OR</u> -For systolic BP 71-90, HR is 108 or greater	Blunt or penetrating trauma	-Known or suspected pregnancy -Age less than 15 years or less than 50 kg if age unknown -Ongoing prehospital CPR -More than 2L fluids on board -Severe hypothermia (less than 28 C) -Drowning -Asphyxia due to hanging -Burns TBSA greater than 20% -Isolated penetrating injury to head -Inability to obtain prehospital IV access -Time call received to study intervention is greater than 4 hours -Patient is a known prisoner -Patient has on a study opt-out bracelet -Interfacility transport



Notes:

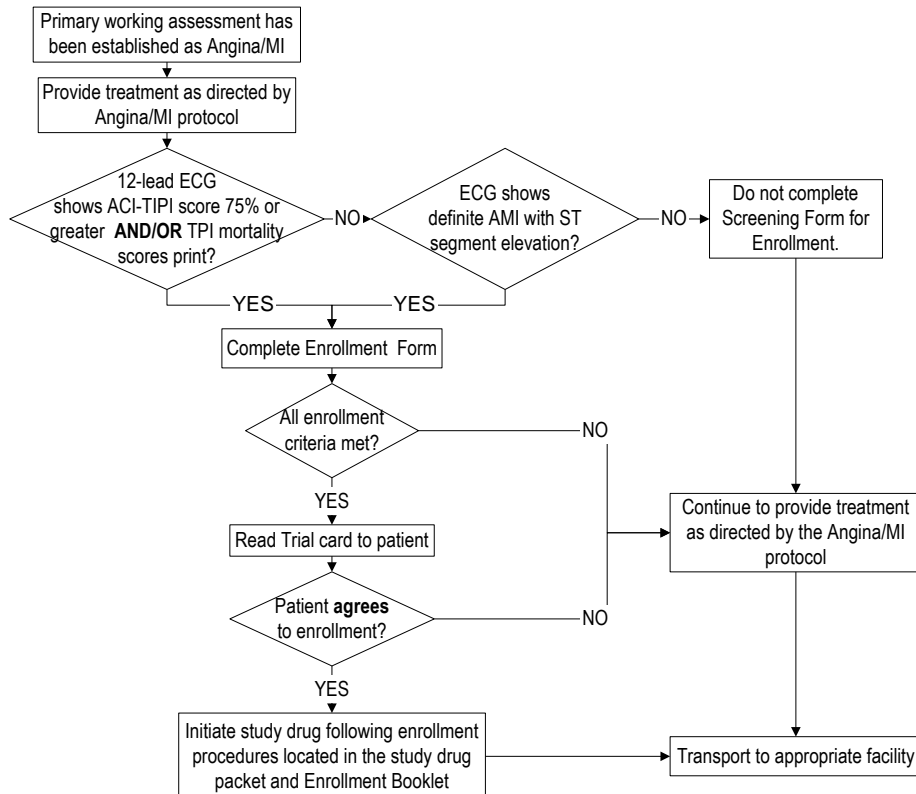
- Call the Hypertonic Saline Research Hotline at 805-9322 for all patients enrolled.
- Refer to the HS Study Packet or call the Research Hotline for questions.

Initiated: 7/31/07
Reviewed/revised: 3/24/08
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
IMMEDIATE TRIAL ENROLLMENT**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

History	Working Assessment
History of cardiac problems: bypass, cath, stent, CHF Hypertension Diabetes Positive family history Smoker Cocaine use within last 24 hours Available nitroglycerin prescribed for patient	Angina/MI
Signs/Symptoms	Enrollment Exclusion Criteria
Pain, discomfort or tightness in chest, arm, jaw, epigastrium Nausea Diaphoresis Shortness of breath Acute fatigue/generalized weakness Syncope Palpitations Systolic blood pressure less than 100 mm Hg Abnormal rhythm: ectopy, BBB, new onset atrial fibrillation 12-lead ECG confirms likelihood of threatened or established AMI with ACI-TIPI score of 75% or greater	Interfacility transport from physician's office or clinic Age less than 30 years Current dialysis patient Rales halfway or more up patient's back Patient is a prisoner Patient has a language barrier or evidence of impaired reasoning Patient is known to be pregnant



Notes:

- Call the IMMEDIATE Trial Research Hotline at (414) 805-9323 when a Screening Form for Enrollment is completed regardless if patient enrolled or not. If the patient was not enrolled, place the Screening Form for Enrollment in the Trial bin at the station along with the 12-lead printout.
- Refer to the IMMEDIATE Trial Enrollment Booklet, pump instructions, and Trial information package with the study drug located on each ALS vehicle.

Initiated: 12/5/96
Reviewed/revised: 11/30/06
Revision: 3

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
LATEX ALLERGIES**

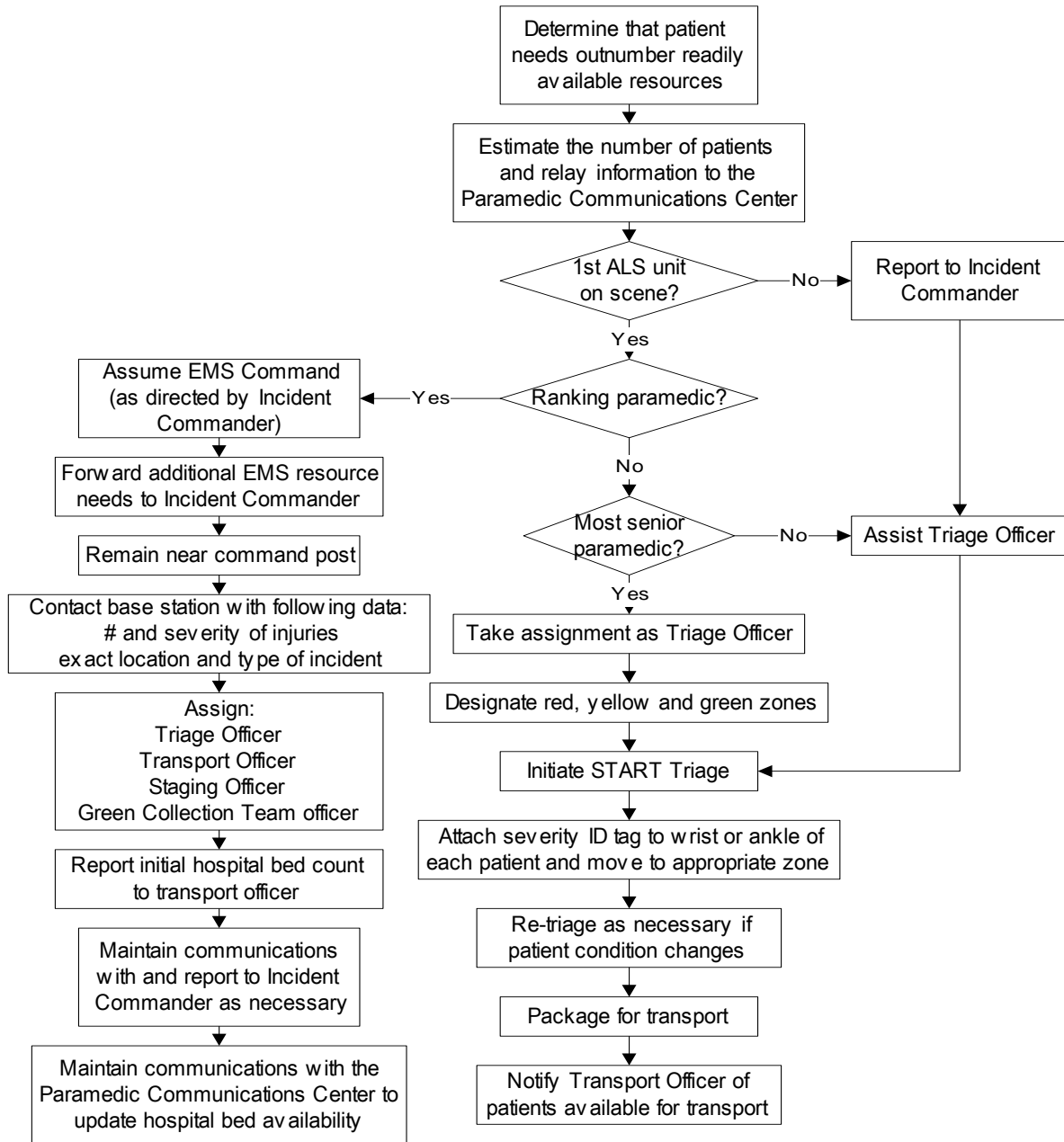
Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

Standard of care abolished as of 11/30/06. Refer to Operational Policy, "Latex Allergies", page 4-10.3.

Initiated: 12/10/82
Reviewed/revised: 9/12/01
Revision: 4

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
MASS CASUALTY TRIAGE**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



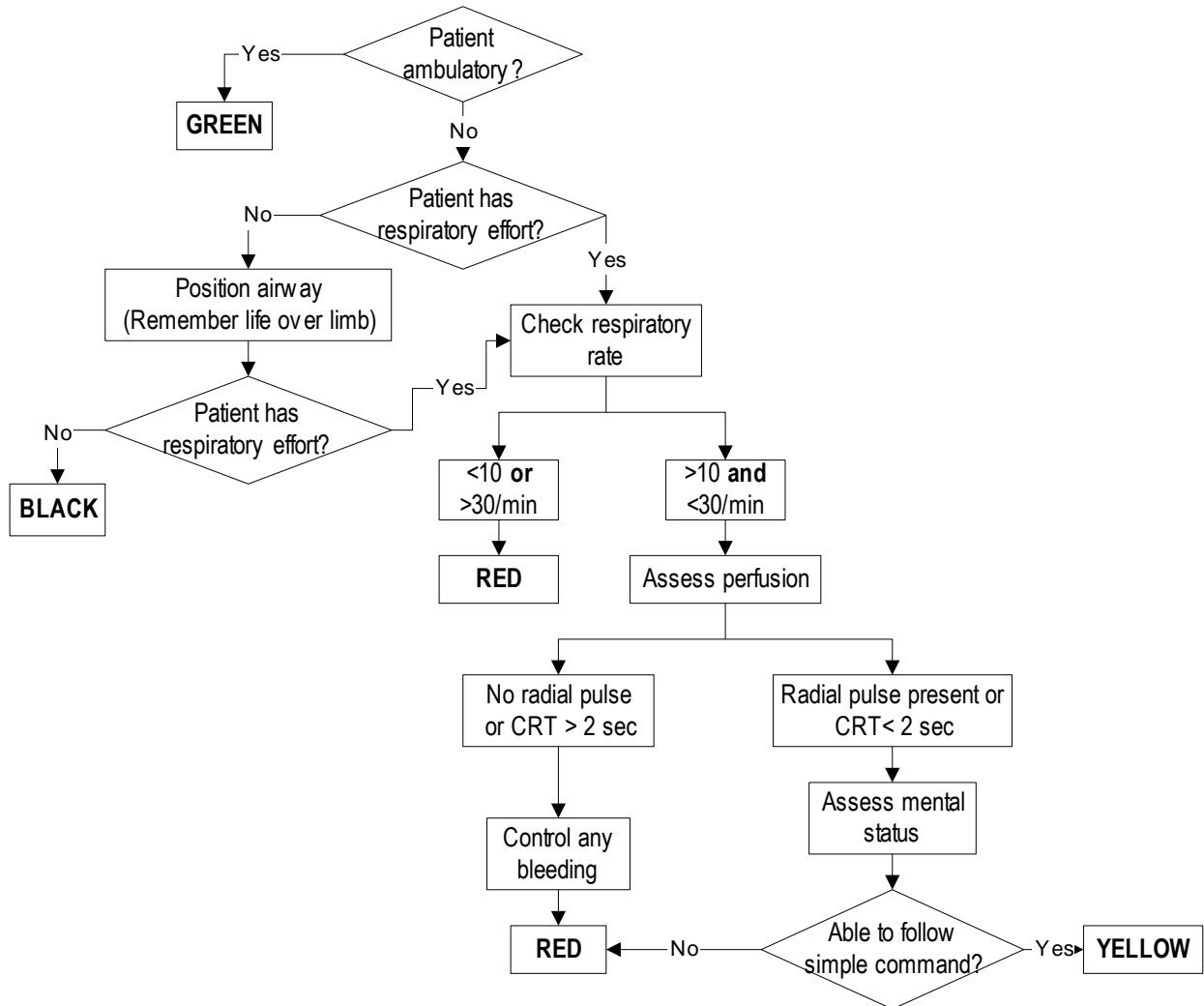
NOTES:

- Utilization order of EMS resources is:
 - Local EMS agency and mutual aid units (including Flight For Life and/or additional helicopters)
 - Zone resources
 - Activation of Milwaukee County Disaster Plan (Annex "O") may be requested by Incident Commander through Milwaukee County Emergency Management
- Refer to individual fire department disaster/multi-casualty incident position descriptions for further specific duties.
- BLS transport units should use MCI ambulance to hospital communication protocol.

Initiated: 12/10/82
Reviewed/revised: 5/16/01
Revision: 2

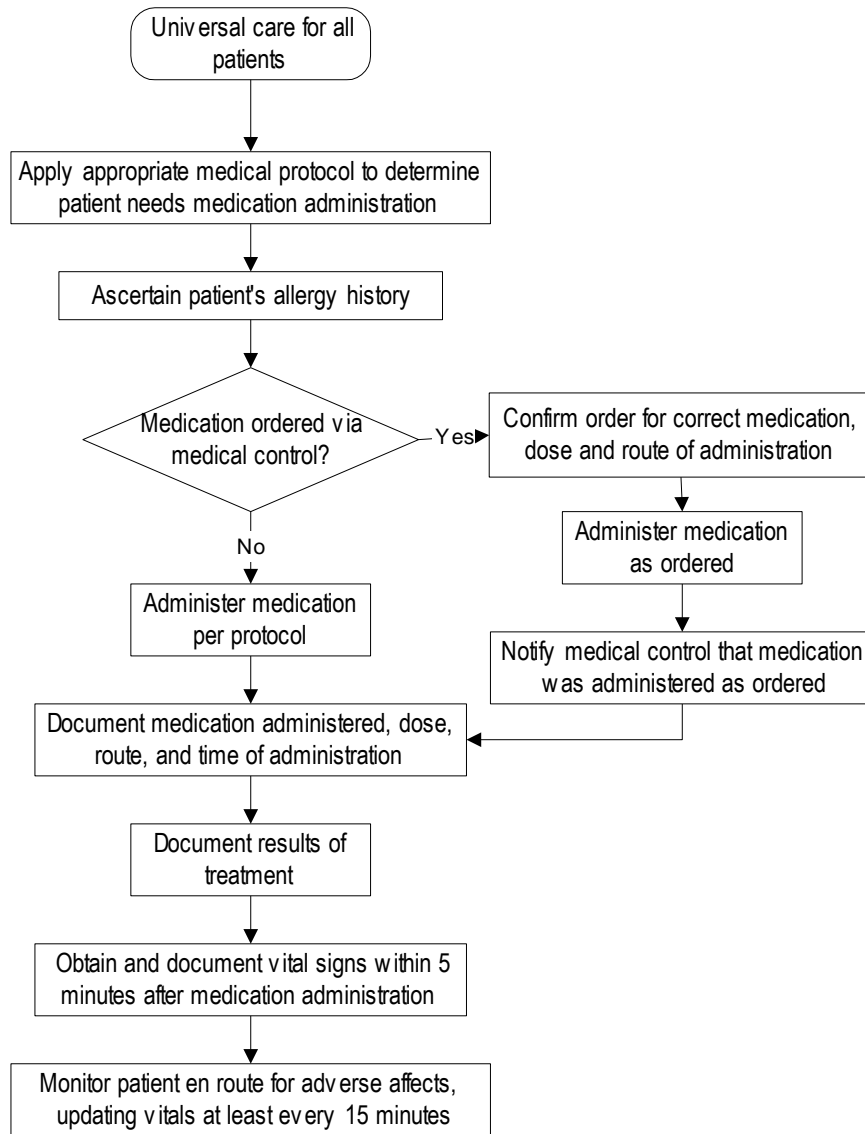
**MILWAUKEE COUNTY EMS
STANDARD OF CARE
S.T.A.R.T. TRIAGE**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



NOTES:

- S.T.A.R.T. = Simple Triage and Rapid Treatment



NOTES:

- The pediatric dose book will be used to establish dosages for patients < 8 years of age.
- Any medication order that differs from the usual dose should be questioned and discussed with medical control prior to administration.
- The patient's gag reflex must be present, and the patient must be cooperative, understand and be able to follow instructions for all oral medication administration.

Initiated: 9/92
Reviewed/revised: 5/21/08
Revision: 15

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
MEDICATION LIST**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 3

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	MONITOR, REPORT, DOCUMENT	CONTRAINDICATIONS
Adenosine 6mg in 2 cc vial 12mg in 4cc Prefilled syringe	1 st dose - 6 mg rapid IV 2 nd dose - 12 mg rapid IV 3 rd dose - 12 mg rapid IV	1 st dose - 0.1 mg/kg 2 nd dose - 0.2 mg/kg	Continuous ECG Attempt to record conversion	Heart block Heart transplant Resuscitated PNB
<u>Albuterol</u> (Ventolin) 2.5 mg in 3 cc Unit dose	2.5 mg in 3 cc, nebulized Do not dilute	2.5 mg in 3 cc, nebulized Do not dilute	Patients with cardiac history over the age of 60 will have ECG monitoring during administration Heart rate Change in respiratory status	Heart rate >180
Amiodarone (Cordarone) 150 mg in 3 cc Carpject	300 mg IV/IO bolus <i>for cardiac arrest only</i> 150 mg add to 100 cc D5W, IV, run over 10 minutes	5mg/kg IV/IO bolus <i>for cardiac arrest only</i> 5mg/kg add to 100 cc D5W, IV, run over 10 minutes	ECG changes	2 nd or 3 rd degree AV block, Bradycardia Not to be administered via ETT
Aspirin 81 mg Chewable tablet	324 mg - 4 tablets, chew and swallow	N/A	N/A	Allergy; Asthma Bleeding disorders GI bleed, ulcers Concurrent use of "blood thinners"
Atropine 1mg in 10 cc Prefilled	0.5 - 1.0 mg IV/IO 2.0 mg ET 2 - 5 mg IV for organophosphate poisoning Max dose 0.04 mg/kg Minimum dose 0.1 mg	0.02 mg/kg Max dose 1.0 mg Minimum dose 0.1 mg	Heart rate before and after administration; BP within 5 minutes of administration; ECG changes	Tachycardia
Calcium Chloride 1 g in 10 cc Prefilled	100 - 500 mg IV bolus	20 mg/kg to a max of 500 mg per dose	ECG changes Watch carefully for infiltration	Ventricular fibrillation Ventricular tachycardia
D5 in Water 100 cc bag	Used to dilute amiodarone, lidocaine, sodium bicarbonate	Used to dilute dextrose and sodium bicarbonate	Monitor for infiltration Monitor pediatric blood glucose levels	None

Initiated: 9/92
Reviewed/revised: 2/13/08
Revision: 14

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
MEDICATION LIST**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 2 of 3

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	MONITOR, REPORT, DOCUMENT	CONTRAINDICATIONS
Dextrose 25 g in 50 cc Prefilled	25 g IV bolus or swallowed	500 mg/kg (1 ml/kg) to a max of 25 g/dose Dilute 1:1 with D5W for patient < 100 lbs (45 kg)	Changes in level of consciousness Repeat blood sugar determination Watch carefully for infiltration	If hypoglycemic, no contraindications
Diazepam Autoinjector Diazepam 10 mg/2 cc	10 mg IM	N/A	Change in seizure activity	No seizure activity
Diphenhydramine (Benadryl) 50 mg in 1 cc, 25 mg pills	25 – 50 mg IV, IM, oral	1 mg/kg < 20kg	Changes in level of consciousness	Presence of a self-administered CNS depressant
Dopamine 200 mg in 250 cc Premixed IV	2 – 20 mcg/kg/min IV drip premixed bag	2 – 20 mcg/kg/min IV drip premixed bag	ECG changes Headache Watch carefully for infiltration	Hypovolemic shock Ventricular fibrillation, Ventricular tachycardia or PVCs
DuoDote Kit Atropine 2.1 mg/0.7 cc Pralidoxine 600 mg/2 cc Autoinjector	Atropine – 2 mg IM Pralidoxine – 600 mg IM	N/A	Change in symptoms Change in level of consciousness	Mild symptoms with no miosis
Epinephrine <u>1:1000</u> – 1 mg in 1 cc vial <u>1:10,000</u> 1 mg in 10 cc Prefilled	<u>1:1000:</u> 0.2 - 0.5 mg subQ, IM, or autoinjector <u>1:10,000:</u> 0.5 - 1.0 mg IV/IO bolus 2.0 mg ET	SubQ (5 - 20 kg, 2 – 7 yrs) 0.15 mg of 1:1000 IV/IO - 0.01 mg/kg of 1:10,000 ET - 0.1 mg/kg of 1:1000	Breath sounds and vital signs within 5 minutes of administration Effect on heart rate ECG changes	No absolute contraindications in a life-threatening situation Use caution when administering to patient with hypertension or coronary artery disease
Furosemide (Lasix) 100 mg in 10 cc Prefilled	20 - 100 mg IV bolus	1 mg/kg Maximum 6 mg/kg	Daily maintenance dose of Lasix if known Respiratory assessment within 5 minutes of administration Any urinary output	Caution: Lasix is not as effective in renal failure patients who are unable to produce urine

Initiated: 9/92
Reviewed/revised: 2/13/08
Revision: 14

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
MEDICATION LIST**

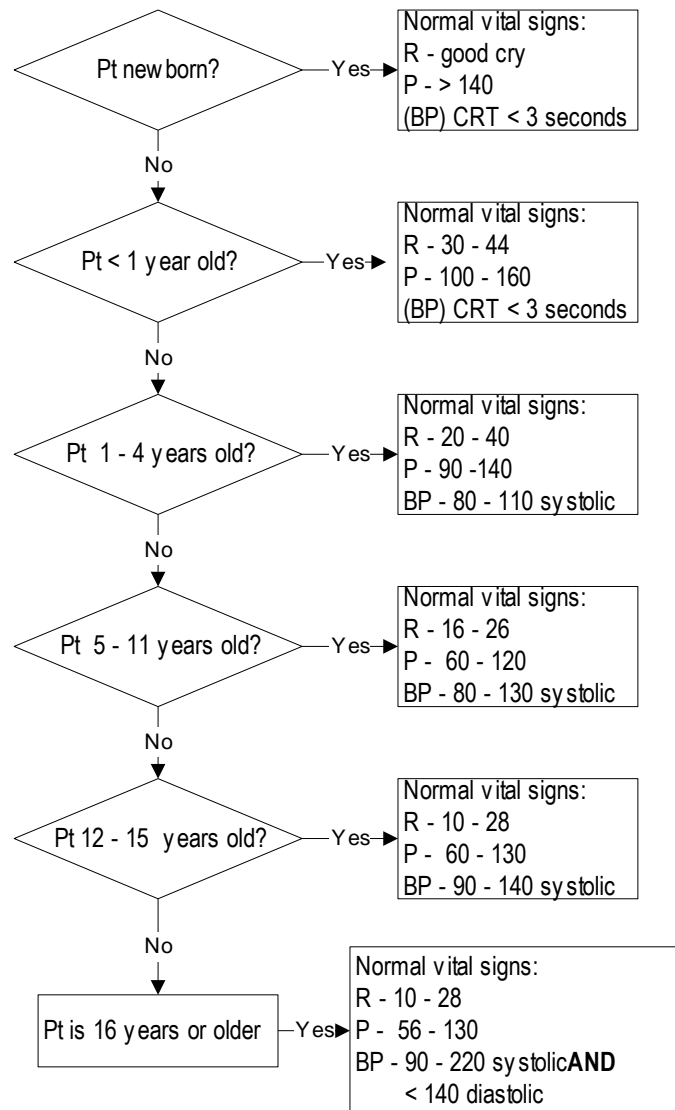
Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 3 of 3

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	MONITOR, REPORT, DOCUMENT	CONTRAINDICATIONS
Glucagon 1 mg with 1 cc diluting solution	1 mg IM injection	1 mg IM injection	Level of consciousness Repeat blood glucose determination	Known hypersensitivity Known pheochromocytoma
Glucose (oral) 15 g in 37.5 g Gel tube	15g swallowed	15g swallowed	Level of consciousness	Lack of gag reflex Patient unable to swallow
Lidocaine 100 mg in 5 cc Prefilled	1.0 - 1.5 mg/kg IV/IO bolus/ET <u>Maintenance:</u> 200 mg in 100 cc D5W run at 2 to 4 mg/min Max dose 3 mg/kg IV bolus	1mg/kg	ECG changes	Heart block Junctional arrhythmia Brady arrhythmia
<u>Midazolam</u> (Versed) 5 mg in 5 cc vial	1 - 2 mg IV bolus, IM, rectally Max dose 4 mg	0.1mg/kg Max dose 3 mg	Changes in respiratory rate and effort Changes in level of consciousness and seizure activity	Hypotension Presence of a self-administered CNS depressant
Morphine Sulfate 10 mg in 1 cc Carpuject/tubex	2 - 4 mg IV bolus, IM or subQ	0.1 mg/kg	Change in pain level Changes in respiratory rate and effort	Respiratory depression GCS < 14 Hypotension
<u>Naloxone</u> (Narcan) 2 mg in 2 cc Prefilled	2.0 mg IV bolus, ET, IM	0.1 mg/kg	Change in level of consciousness	Allergy
Nitroglycerine Metered spray Canister	0.4 mg sublingually metered spray	N/A	Blood pressure prior to and after administration Headache	Hypotension Use of Viagra within last 24 hours
Normal Saline 1000 cc, 250cc bags, 2cc carpuject	As needed for volume replacement or to administer medications	As needed for volume replacement or to administer medications	Label date and time set up assembled Document ccs of fluid infused Blood pressure Monitor for infiltration Attempt to keep warm in extreme cold	Discard after 24 hours or if no longer sterile
Sodium Bicarbonate 50 mEq in 50 cc Prefilled	0.5 - 1.0 mEq/kg IV bolus	1.0 mEq/kg dilute for infants 5 kg and less 1:1 with D5W	Change in level of consciousness ECG changes if given for tricyclic OD	Do not mix with epinephrine or dopamine

Initiated: 9/92
Reviewed/revised: 10/12/05
Revision: 2

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
NORMAL VITAL SIGNS**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



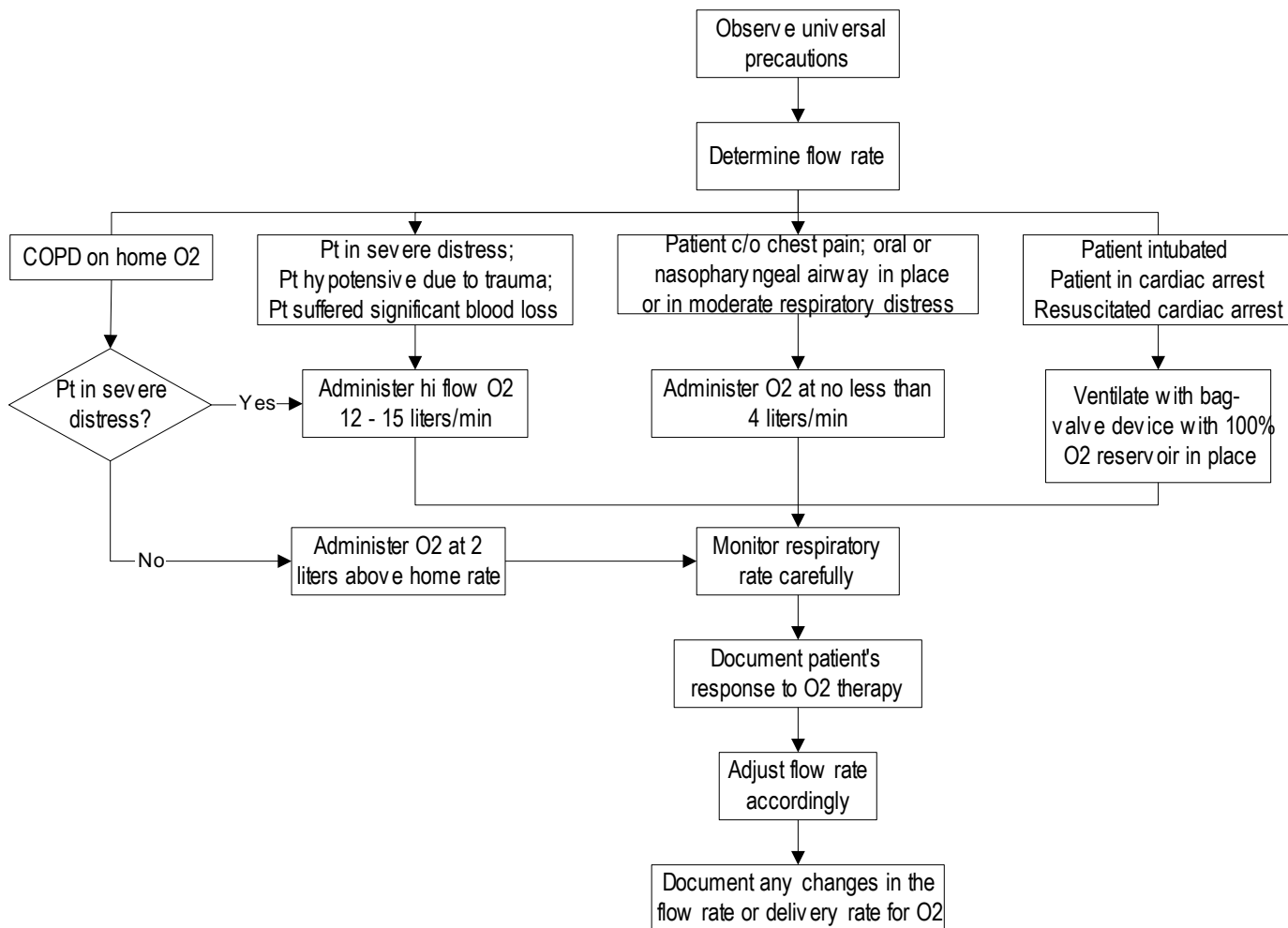
NOTES:

- Vital sign measurements include auscultating a blood pressure, palpating a pulse and counting respirations per minute.
- Pulse and respirations are to be counted for 15 seconds and the result multiplied by 4 for the rate/min with the exception of hypothermic patients. Pulse and respiratory rates are to be palpated and counted for one full minute in all patients suspected of being hypothermic.
- Normal room air oxygen saturation (pulse ox) is 94 – 100%

Initiated: 9/92
Reviewed/revised: 5/10/00
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
OXYGEN ADMINISTRATION**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



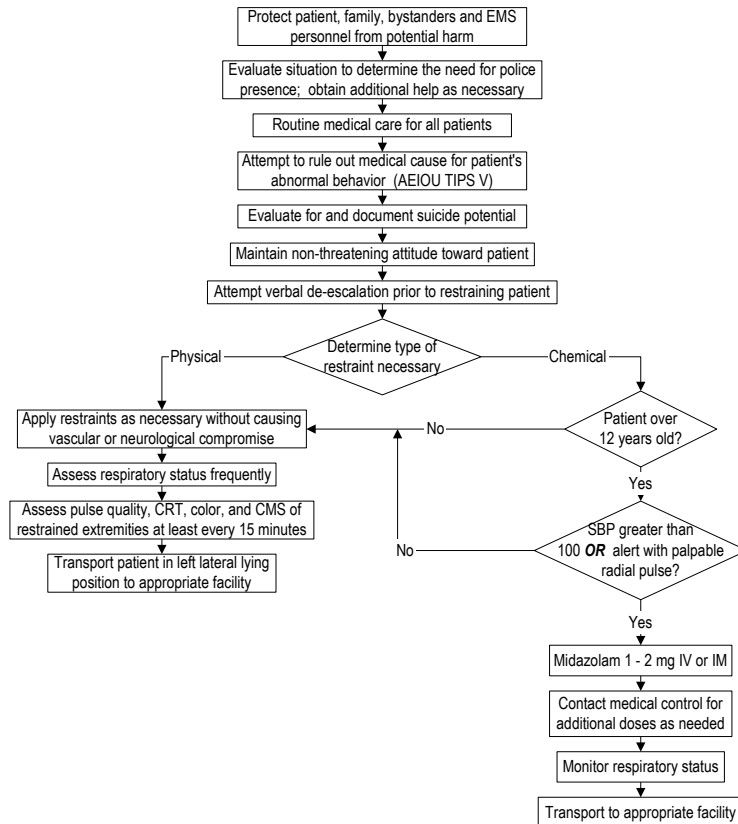
NOTES:

- Nasal cannula delivers 1 - 6 liters O2/minute delivering 25 - 40% concentration
- Non-rebreather mask delivers 12 liters O2/minute, delivering 90+% concentration
- Bag-valve device with O2 reservoir provides maximum flow rate for 100% concentration

Initiated: 2/22/96
Reviewed/revised: 5/16/07
Revision: 4

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
PATIENT RESTRAINT**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



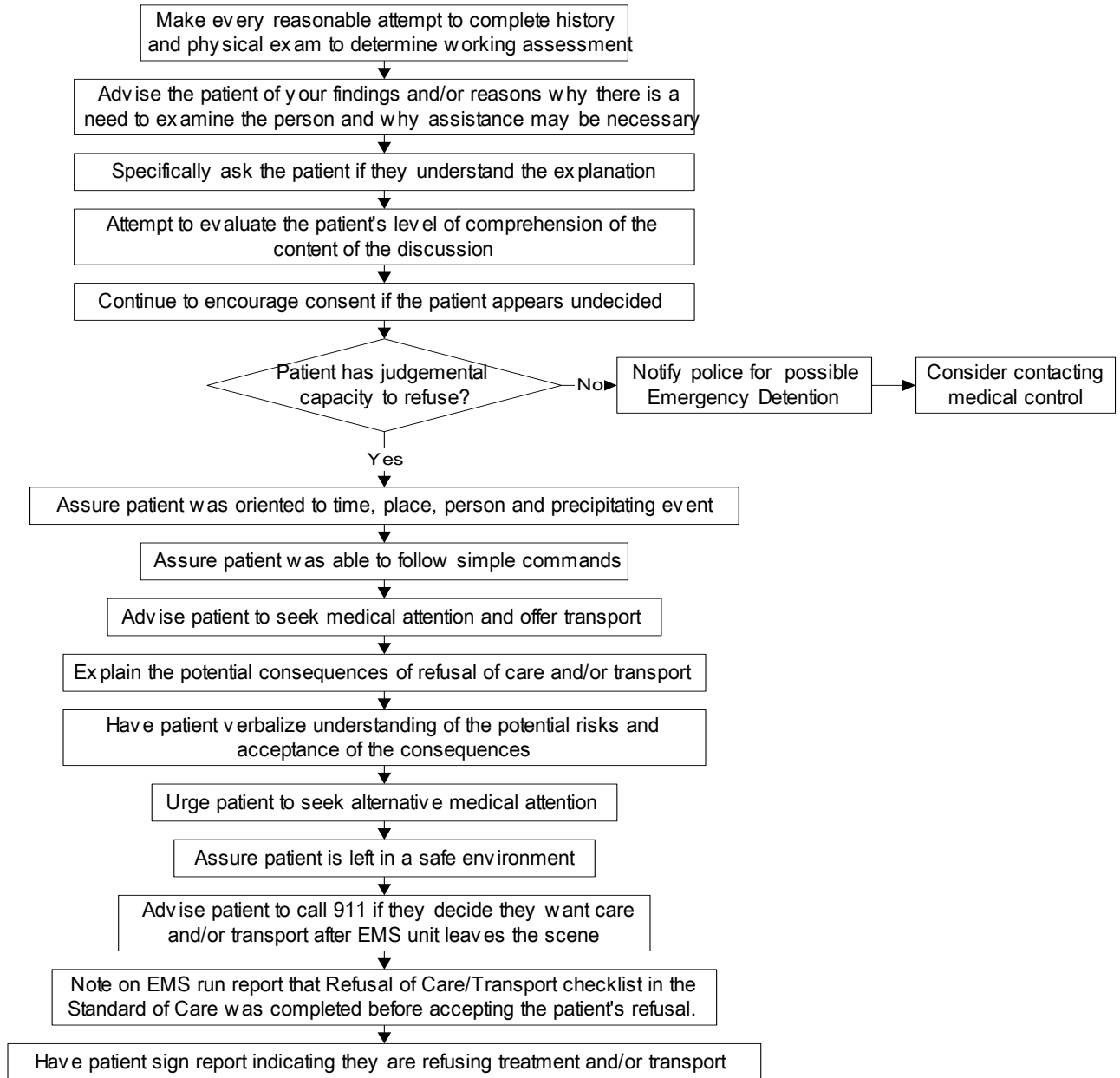
NOTES:

- Use the least restrictive or invasive method of restraint necessary.
- Chemical restraint may be less restrictive and more appropriate than physical restraint in some situations
- Documentation of need for restraint must include:
 - Description of the circumstances/behavior which precipitated the use of restraint
 - A statement indicating that patient/significant others were informed of the reasons for the restraint and that its use was for the safety of the patient/bystanders
 - A statement that no other less restrictive measures were appropriate and/or successful
 - The time of application of the physical restraint device
 - The position in which the patient was restrained and transported
 - The type of restraint used
- Physical restraint equipment applied by EMS personnel must be padded, soft, allow for quick release, and may not interfere with necessary medical treatment.
- Spider and 9-foot straps may be used to restrain a patient in addition to the padded soft restraints.
- Restrained patients may NOT be transported in the prone position.
- EMS providers may NOT use:
 - Hard plastic ties or any restraint device which requires a key to remove
 - Backboard or scoop stretcher to "sandwich" the patient
 - Restraints that secure the patient's hands and feet behind the back ("hog-tie")
 - Restraints that interfere with assessment of the patient's airway.
- For physical restraint devices applied by law enforcement officers:
 - The restraints and position must provide sufficient slack in the device to allow the patient to straighten the abdomen and chest to take full tidal volume.
 - Restraint devices may not interfere with patient care.
 - An officer must be present with the patient AT ALL TIMES at the scene as well as in the patient compartment of the transport vehicle during transport
- Side effects of midazolam may include respiratory depression, apnea, and hypotension.

Initiated: 5/15/97
Reviewed/ revised: 5/10/00
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
REFUSAL OF MEDICAL CARE
AND/OR TRANSPORT**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



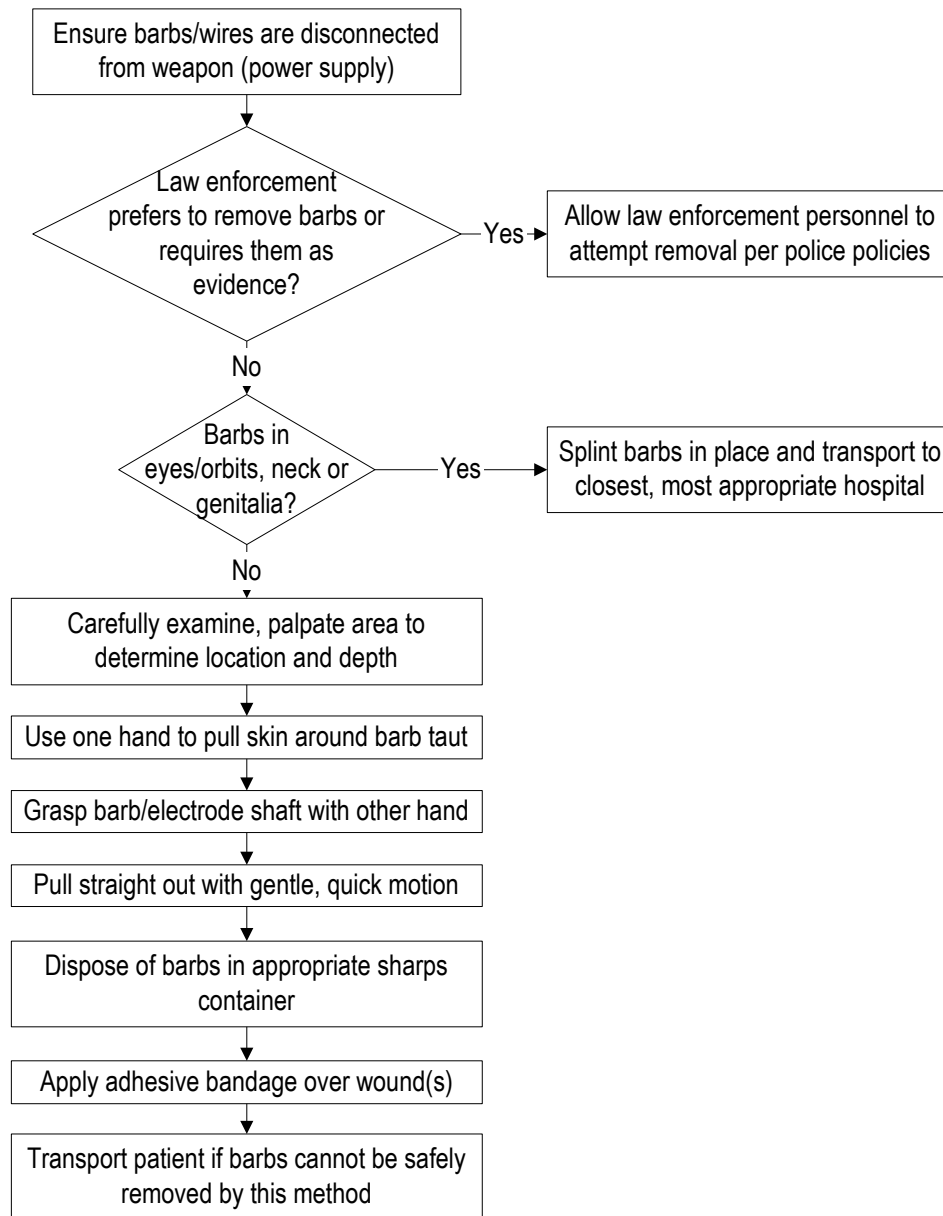
NOTES:

- If the patient is a non-emancipated minor and no symptoms that a prudent layperson, possessing an average knowledge of health and medicine, could reasonably expect to result in serious impairment to the patient's health exist:
 - A parent, guardian or individual responsible for the well being of a non-emancipated minor may refuse medical care and/or transport on the behalf of the patient.
 - If no parent, guardian or responsible party is present at the scene, the non-emancipated minor may refuse care and/or transport, if they have the capacity to refuse as defined above. A reasonable attempt should be made to contact the parent or guardian.

Initiated: 2/13/08
Reviewed/revised:
Revision:

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
REMOVAL OF CONDUCTED
ENERGY DEVICE BARBS**

Approved by: Ronald Pirrallo, MD, MHSA
Approved by:
Page 1 of 1



Notes:

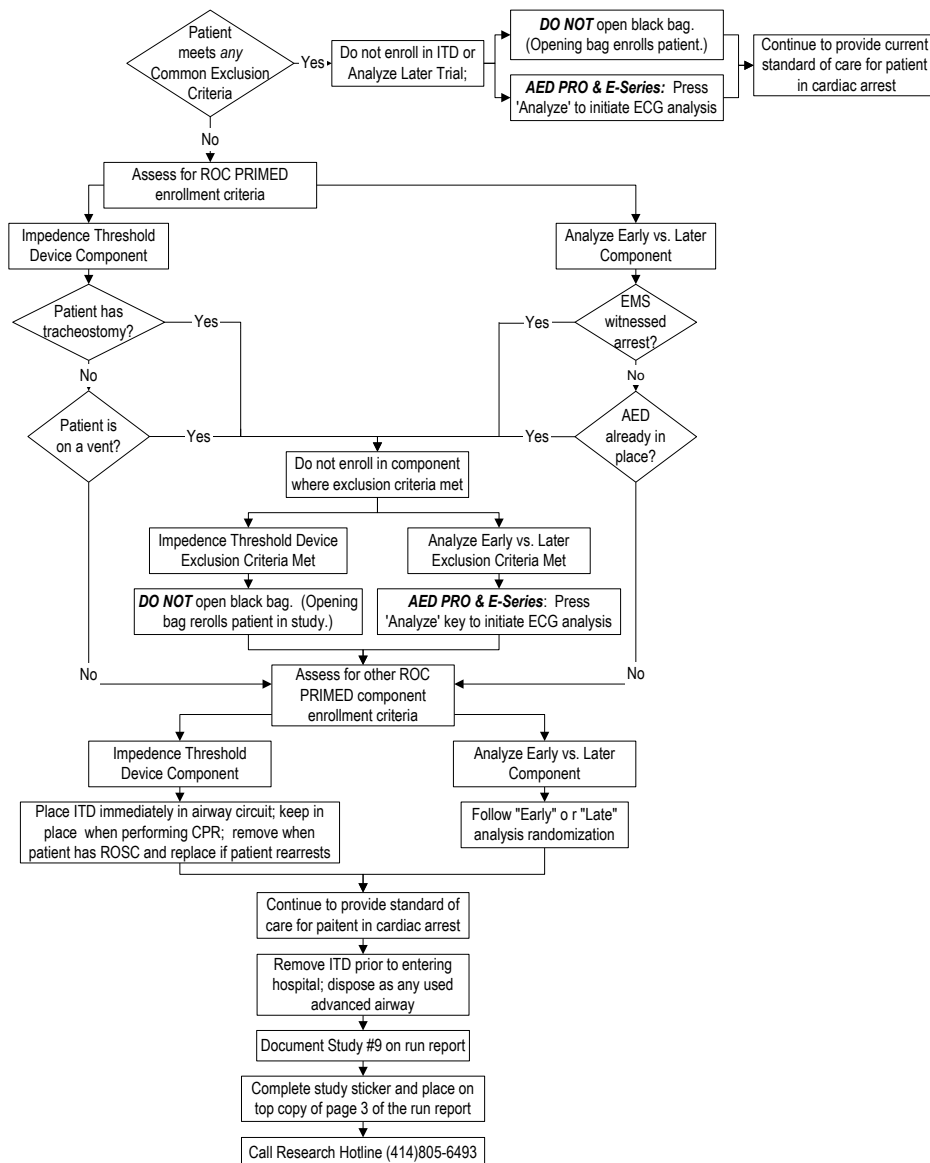
- Most conducted energy device barbs have a small bent hook similar to the barbs on a fishhook.
- On most occasions, the conducted energy weapon will cauterize the skin at the site of penetration. Bleeding is usually minimal, and the wound will heal uneventfully.
- When grasping barbs, grasp the metal shaft of the electrode, and not the wires, which are fragile and will break easily. Take care not to grasp any exposed sharp ends.

Initiated: 2/13/08
Reviewed/revise:
Revision:

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
ROC PRIMED TRIAL
ENROLLMENT**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

History	Signs/Symptoms	Working Assessment	Enrollment Exclusion Criteria
Patient, 18 years or older, who suffered non-traumatic cardiac arrest	Cardiac arrest of non-traumatic origin	Cardiac arrest	<u>Common Exclusion Criteria</u> Known or suspected pregnancy Age less than 18 years Patient is a known prisoner Patient has on a study opt-out bracelet Patients with exsanguinations (e.g. GI bleed) Blunt, penetrating, or burn-related injury Private or lay EMS provider initiated resuscitation attempt <u>Additional ITD Exclusion Criteria</u> Patient has tracheostomy Patient is on a ventilator <u>Additional Analyze Early vs. Later Exclusion Criteria</u> EMS witnessed arrests AED placed by lay provider (health club, school, etc.)



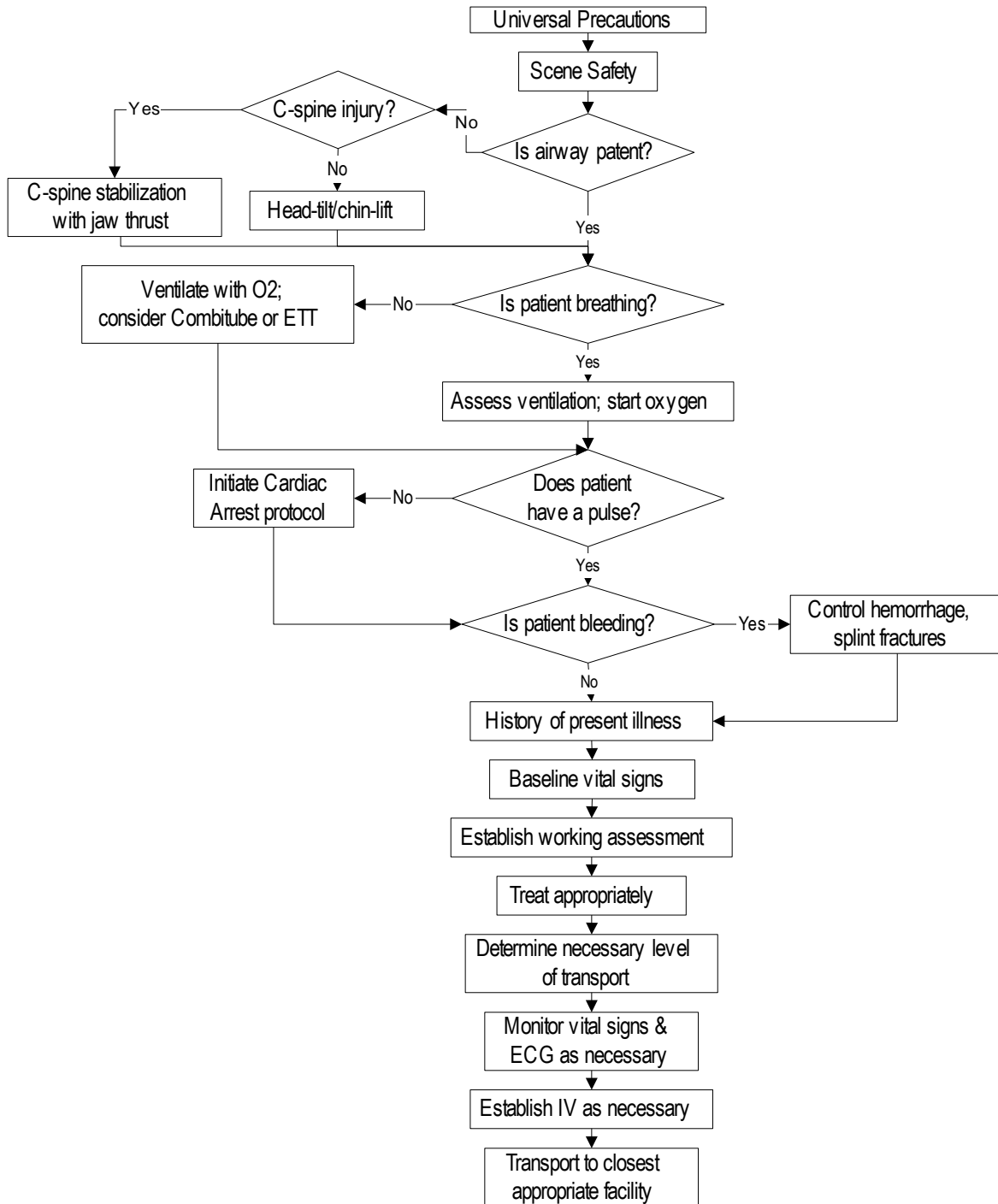
Notes:

- Refer to the Study Packet or call the Research Hotline for questions.

Initiated: 7/94
Reviewed/ revised: 6/1/06
Revision: 2

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
ROUTINE MEDICAL CARE
FOR ALL PATIENTS**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



Notes:

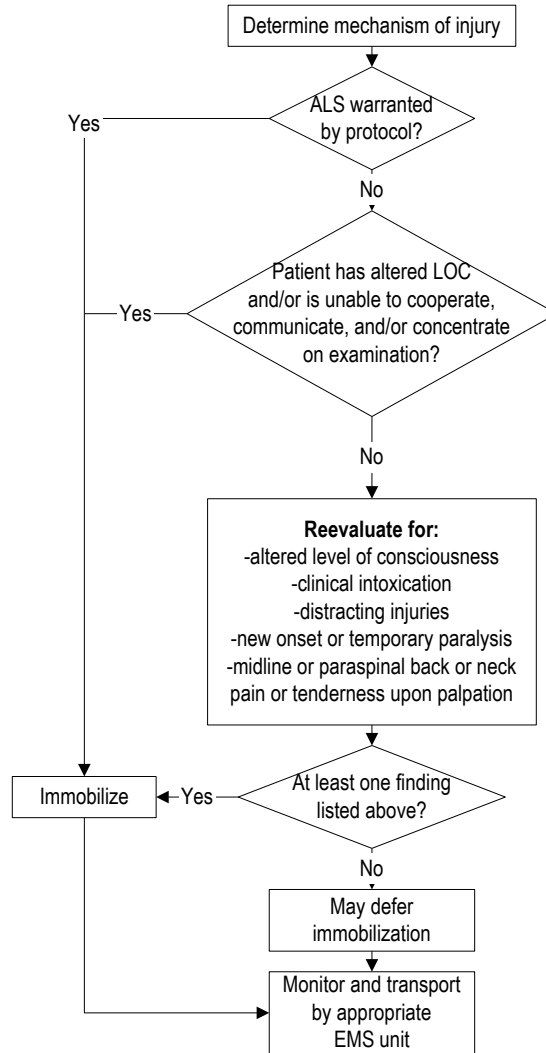
- A patient care report must be completed for each patient evaluated. A minimum of two complete sets of vital signs must be documented.
- The hospital copy of the patient care report must accompany the patient to the hospital.
- Refer to Transport/Triage Policy for required level of transport and destination hospitals providing specialized care.
- Paramedic Base must be called with the name and case number of all patients.

Initiated: 9/12/01
Reviewed/ revised: 2/13/08
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
SPINAL IMMOBILIZATION**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of

With careful assessment, a patient who has sustained *minor* blunt trauma may not require spinal immobilization.



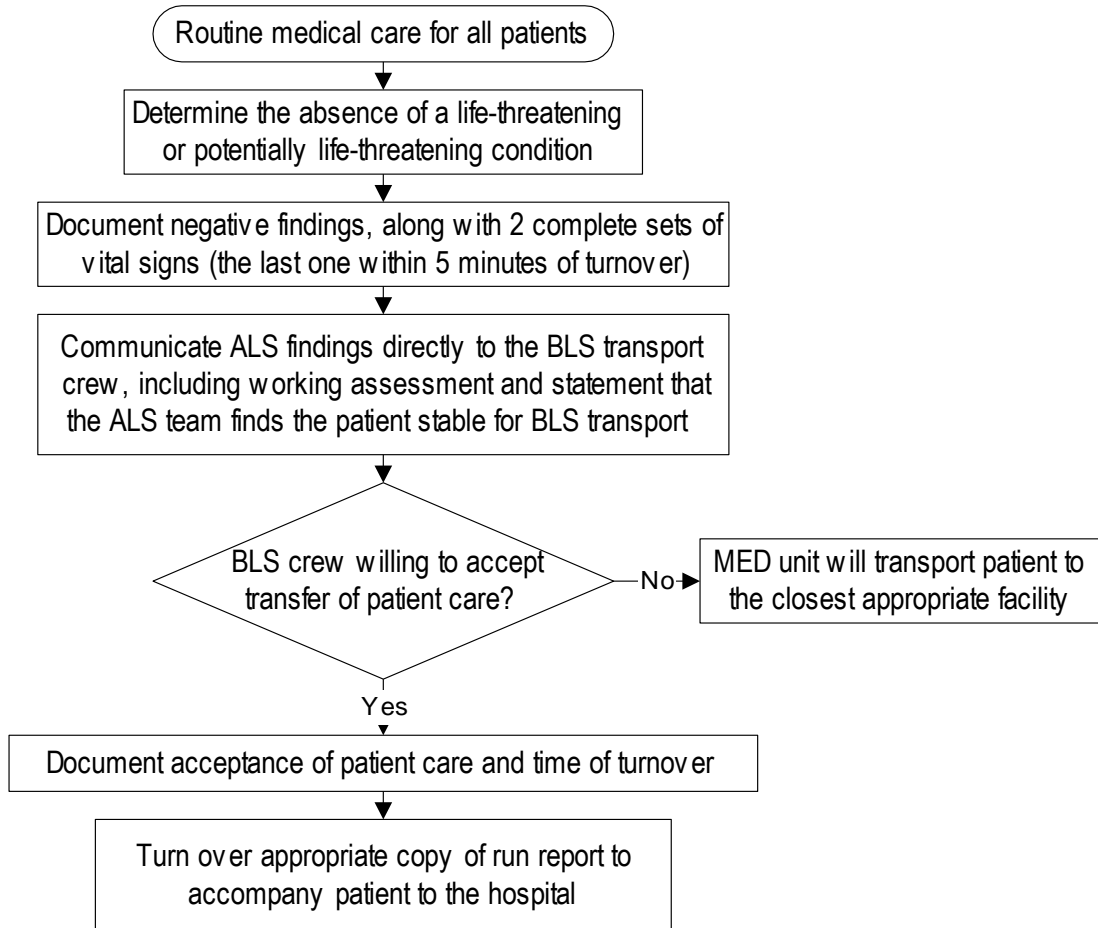
NOTES:

- This policy does not exclude any patient from immobilization if the EMS team feels c-spine/spinal immobilization precautions are warranted.
- Communication barriers include, but are not limited to: age, language, closed head injury, deafness, intoxication, or other injury that interferes with patient’s ability to concentrate on or cooperate with the examination (i.e. patient is distracted), etc.
- Neck pain includes any stiffness or tenderness upon palpation at the posterior midline or paraspinal area of the cervical spine or back.
- It is important to determine whether the patient is unable to concentrate on exam due to other injuries, events, or issues (i.e. patient is distracted). Other injuries may actually serve as markers for high-energy trauma that could result in multiple other significant injuries, including cervical spine injuries. Distracting injuries include, but are not limited to: fractures, lacerations, burns, and crush injuries.
- Documentation on the run report should reflect negative physical findings as outlined above.

Initiated: 9/92
Reviewed/ revised: 10/13/04
Revision: 7

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
TRANSFER OF CARE
(TURNDOWN)**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



NOTES:

- The decision to turn the patient over for BLS transport *must be unanimous* among the paramedic team.
- Patients who may not be turned over for BLS transport include, but are not limited to:
 - Patients who meet the major/multiple trauma criteria;
 - Patients with a complaint that includes chest pain or difficulty breathing, have a cardiac history who are taking 2 or more cardiac medications or have had an invasive cardiac procedure within the past 6 weeks;
 - Adults complaining of difficulty breathing with a history of cardiac or respiratory disease and/or sustained respiratory rate <8>28 with signs/symptoms of respiratory distress (poor aeration, inability to speak in full sentences, retractions, accessory muscle use, etc.);
 - Tricyclic overdoses;
 - Patients with abnormal vital signs and with associated symptoms;
 - Patients whose history or physical indicates a potentially life-threatening condition;
 - Patients with blood glucose levels >400 mg% and/or with signs/symptoms associated with diabetic ketoacidosis; OR patients with blood glucose levels <80 mg% at time of transport.
 - Any patient in the care of a medical professional who requests ALS transport;
 - Any patient assessed by a BLS unit who is unwilling to accept responsibility for transport;
 - Any patient for whom an ALS procedure was initiated prior to the arrival of the ALS unit.
 - Any patient experiencing complications of pregnancy or childbirth.
 - Any infant with a reported incident of an Apparent Life Threatening Event (ALTE), regardless of the infant's current status.

Initiated: 12/10/82
Reviewed/revised: 2/27/02
Revision: 9

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
UNIVERSAL PRECAUTIONS**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1

Universal precautions are to be taken to prevent the exposure of personnel to potentially infectious body fluids.

- All paramedics will routinely use appropriate barrier precautions to prevent skin and mucous membrane exposure when anticipating contact with patient blood or other body fluids.
- Low latex, powder-free gloves will be worn when in contact with blood or body fluids, mucous membranes or non-intact skin of all patients, for handling items or surfaces soiled with blood or body fluids and for performing venipunctures or other vascular access procedures. Paramedics who believe they have a latex sensitivity or allergy will be issued non-latex gloves if they provide documentation of that sensitivity/allergy from their personal physician.
- Masks and protective eye wear or face shields will be worn to prevent exposure of mucous membranes of the mouth, nose and eyes of the paramedic during procedures that are likely to generate droplets of blood or other body fluids.
- Liquid-impervious gowns will be worn during procedures that are likely to generate droplets of blood or other body fluids (e.g. OB delivery).
- A pocket or bag-valve-mask must be kept readily available to eliminate the need for mouth-to-mouth resuscitation.
- A high efficiency particulate air (HEPA) respirator will be worn when in contact in an enclosed area with a patient suspected of having pulmonary tuberculosis, meningitis, or any other communicable disease.

Hand washing:

- A non-water-based antiseptic cleaner is to be used at the emergency scene whenever body secretions or blood soils the paramedic's skin. Skin surfaces will be washed with soap and water at the first opportunity.
- Liquid hand soap is preferable to bar soap for hand washing. If bar soap is used, it should be kept in a container that allows water to drain away. The bar should be changed frequently.
- Paper towels will be available to dry hands. A "community" cloth towel is not to be used.
- Hand washing is not to be done in a sink that is used for food preparation or clean up.

Disposal of contaminated sharps:

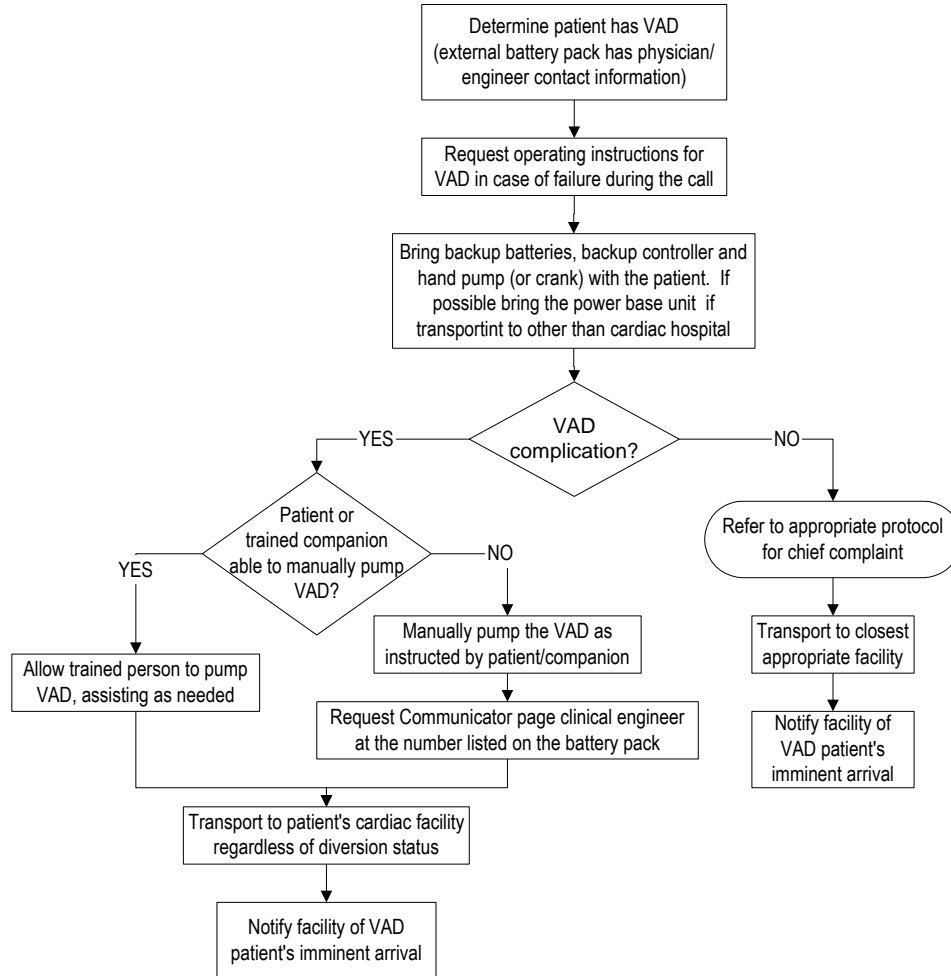
- Every effort is to be made to avoid injuries caused by needles and other sharp instruments contaminated with blood or body fluids.
- If a contaminated needle receptacle is not readily available, the cap of the contaminated needle is to be placed on a flat surface and "scooped up" with the contaminated needle to avoid the potential of a needle stick into the hand holding the needle cap.
- Contaminated sharps boxes should be disposed of at an appropriate reception site when they are 3/4 full. Needles or other contaminated sharps should never protrude from the sharps box.

Any prehospital EMS provider who has reason to suspect s/he may have sustained a significant exposure shall follow their departmental procedure for reporting, testing and follow-up.

Initiated: 10/11/06
Reviewed/ revised: 5/21/08
Revision: 1

**MILWAUKEE COUNTY EMS
STANDARD OF CARE
VENTRICULAR ASSIST
DEVICES**

Approved by: Ronald Pirrallo, MD, MHSA
Signature:
Page 1 of 1



NOTES:

- Axial and Centrifugal Flow VADs **do not generally produce a palpable pulse in the patient.** Assess for other signs of adequate perfusion (alert, warm skin, capillary refill).
- Axial and Centrifugal Flow VADs produce very narrow pulse pressures (5 – 15 mm Hg). **This is normal for the device!** Use only manual blood pressure cuffs on these patients and don't be concerned if you can't detect a blood pressure.
- Chest compressions can cause a tear in the heart or the aorta in patients with a VAD – Do not initiate chest compressions prior to consulting the Clinical Engineer on call.
- Patients can tolerate prolonged Vtach, Vfib, and even Asystole. If not administered correctly, electrical shock can cause device malfunction. Do not shock a patient prior to consulting with the Clinical Engineer on call.
- **Unless the patient requires treatment for major trauma or burns, the closest appropriate facility is the patient's cardiac hospital, regardless of diversion status. If the patient receives cardiac care outside the Milwaukee area, the default receiving hospital is St. Luke's – Main Campus.** Be sure to inform the receiving hospital the patient en route has a VAD.
- Normal flow volume is approximately 4 liters/minute.