MILWAUKEE COUNTY
EMERGENCY MEDICAL SERVICES
STANDARDS MANUAL

STANDARDS OF CARE

Guidelines established by the medical director to ensure all patients receive appropriate assessment and treatment in accordance with accepted EMS best practices.

MEDICAL PROTOCOLS

Written directives established by the medical director and approved by the State EMS Division to guide the practitioner in the treatment of a working assessment within their scope of practice.

STANDARDS FOR PRACTICAL SKILLS

Written directions established by the medical director defining the appropriate steps in the performance of skills used by all EMS professionals.

OPERATIONAL POLICIES

Written procedures established by the Milwaukee County Emergency Medical Services administration and medical director to provide a framework for consistent deployment of processes specific to the daily operations of the EMS System.

MEDICAL STANDARDS FOR SPECIAL OPERATIONS

Guidelines established by the medical director to ensure all patients receive appropriate assessment and treatment in accordance with accepted EMS best practices when special teams are activated within the EMS system.

RESEARCH PROTOCOLS

Documentation of study objectives, implementation timelines, and written directives established by the medical director, approved by the State EMS Division, to guide the practitioner in adherence with the current pre-hospital research protocols.

The contents of this document shall be considered the standard of care for patients receiving prehospital emergency medical care under the medical control of the Medical Director of the Milwaukee County Emergency Medical Services. All policies are developed, reviewed, and approved by the Medical Director of the Milwaukee County Emergency Medical Services.

An employee may temporarily choose to act in contravention of any of the mandates of any policy under rare and extraordinary circumstances. Refer to Operational Policy **EXCEPTIONS TO STANDARD, PROTOCOL, SKILL, POLICY MANDATES**.

All standards, protocols, practical skills and operational policies are reviewed on a 4-year cycle.

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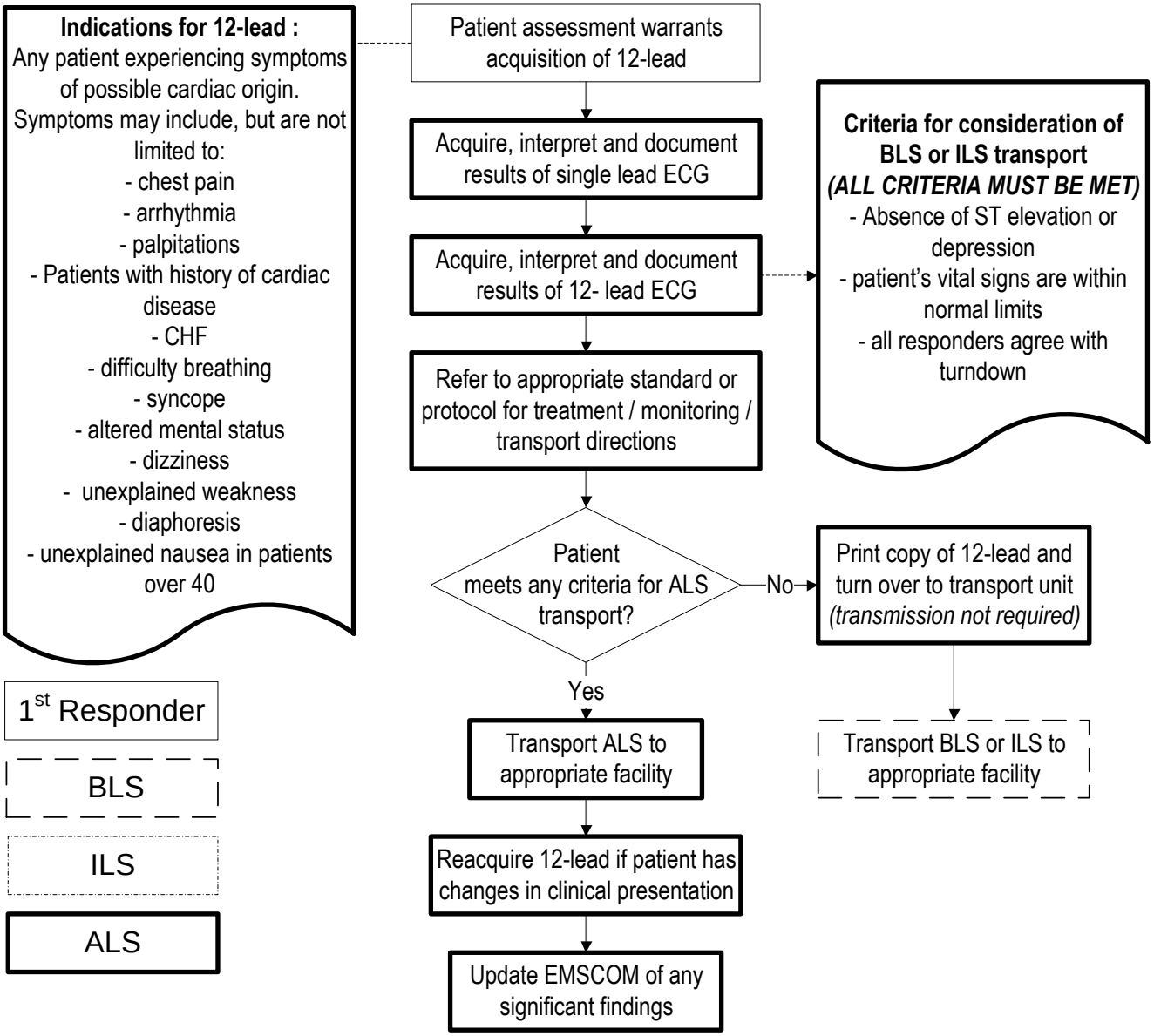
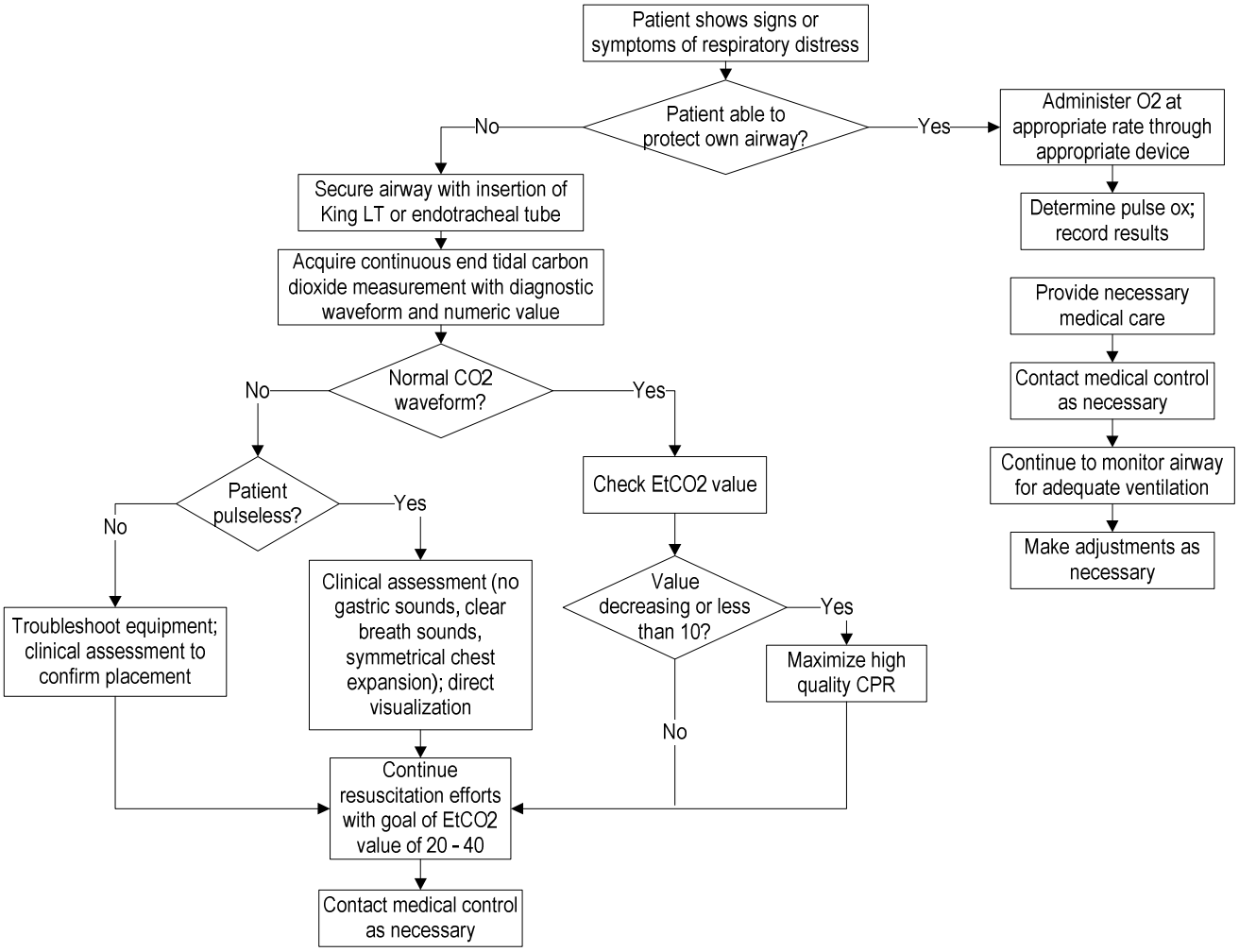
GENERAL STANDARDS OF CARE



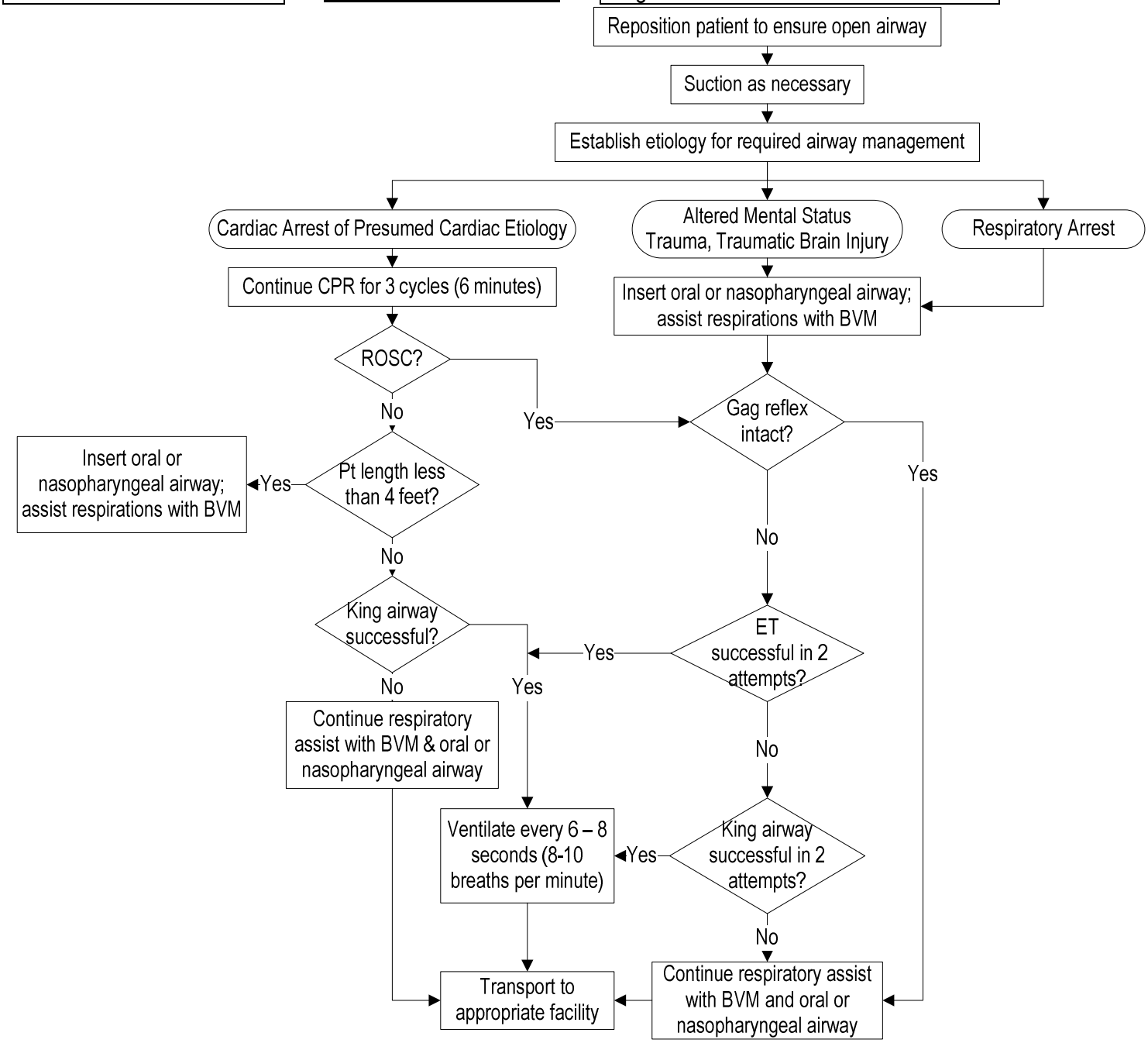
Notes:

- Leads (electrodes) should not be removed; wires can be removed if necessary but prefer to simply unplug cable from monitor and reconnect in rig so serial 12-leads can be done (with the electrodes in the same place).



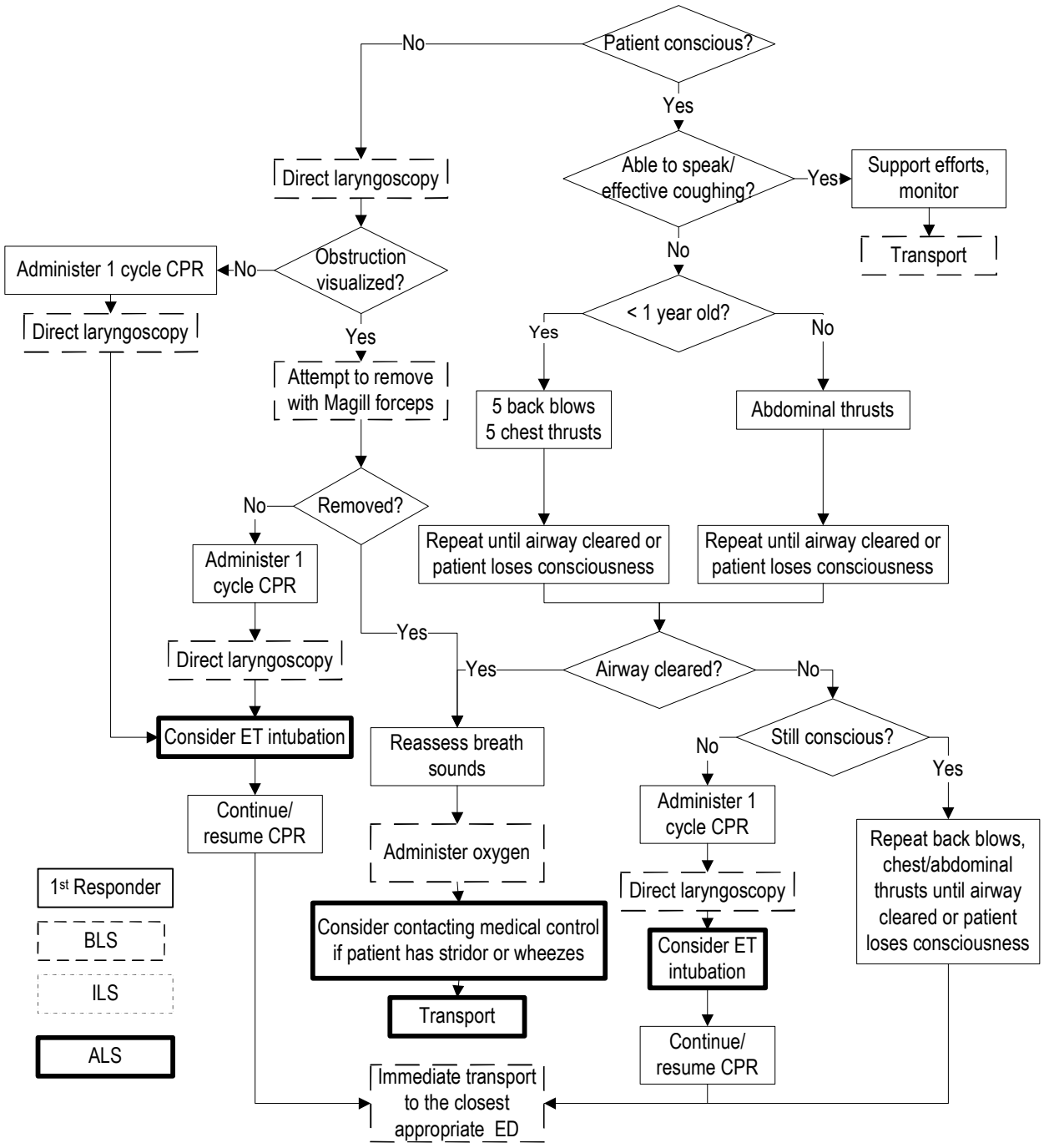
NOTES:

- Normal room air oxygen saturation (pulse ox) is 94 – 100%.
- A normal ETCO2 reading is 33 - 43 mm Hg.
- Ventilation rate is 8 - 10 breaths/minute for victims of cardiac arrest.



NOTES:

- Limit intubation and King airway insertion attempts to one attempt per provider with a total of two attempts. Assure adequate oxygenation and ventilation between attempts.
- An intubation attempt is defined as “the insertion of the laryngoscope blade into the oropharynx”.

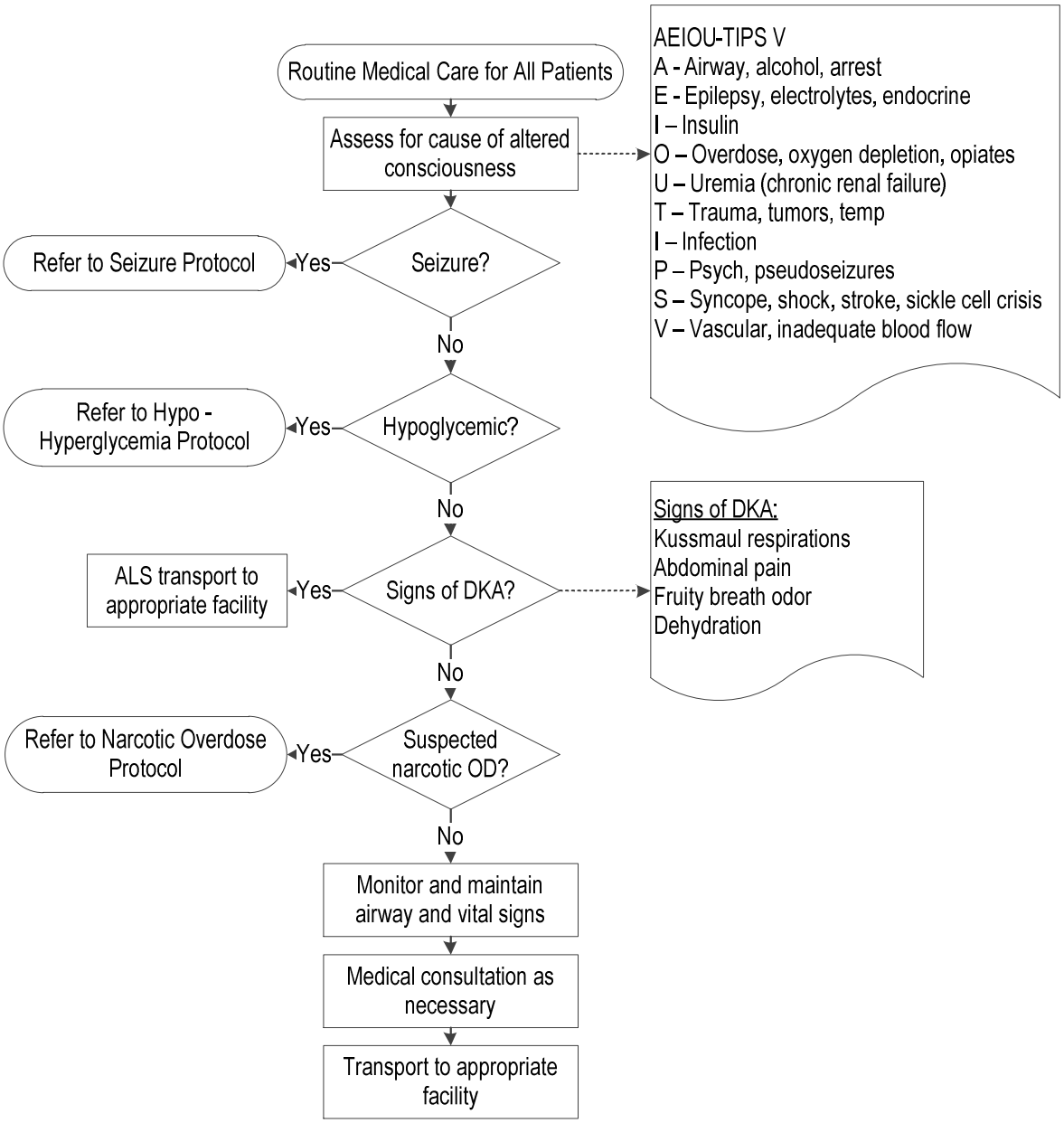


NOTES:

- Abdominal thrusts are no longer indicated in unconscious patients.
- If unable to clear patient's airway, continue attempts to remove/ventilate and begin *immediate* transport to the closest most appropriate ED.
- Combitube insertion is not indicated in respiratory distress secondary to airway obstruction.

Initiated: 9/21/90	**MILWAUKEE COUNTY EMS PRACTICE GUIDELINE**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 4/1/14	**ALTERED LEVEL OF CONSCIOUSNESS**	
Revision: 17		Page 1 of 1

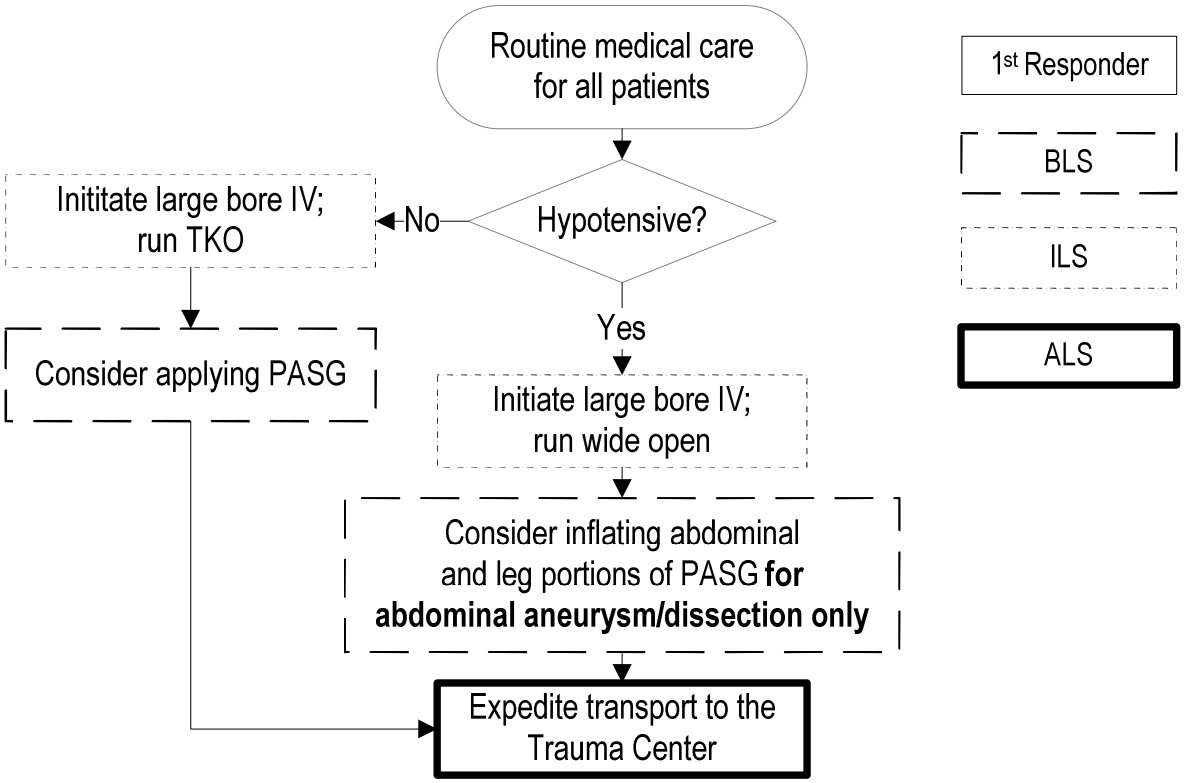
History:	Signs/Symptoms:	Working Assessment:
History of seizure disorder Known diabetic History of substance abuse History of recent trauma Presence of medical alert ID	Unresponsive Bizarre behavior Cool, diaphoretic skin (hypoglycemia) Abdominal pain, Kussmaul respirations, warm & dry skin, fruity breath odor, dehydration (diabetic ketoacidosis)	Altered LOC Insulin shock Hypoglycemia Diabetic ketoacidosis Overdose



NOTES:

- If the patient is suspected of being unconscious due to a narcotic overdose, restraining the patient may be considered before administering naloxone.
- A 12-lead ECG should be obtained for all diabetic patients with atypical chest pain or abdominal pain or other symptoms that may be consistent with atypical presentation of angina or acute coronary syndrome.

History:	Signs/Symptoms:	Working Assessment:
History of hypertension History of arteriosclerosis Elderly male	Abdominal or back pain Pulsating mass in abdomen "Ripping", "tearing", "sharp" pain Unequal pulses in left and right pedal pulse points Hyper- or hypotension	Abdominal aortic aneurysm/ dissection
	Chest pain "Ripping", "tearing", "sharp" pain Distended neck veins (JVD) Unequal pulses in left and right radial pulse points Narrow pulse pressure Different blood pressures in left and right arms Hyper- or hypotension	Thoracic aortic aneurysm/ dissection

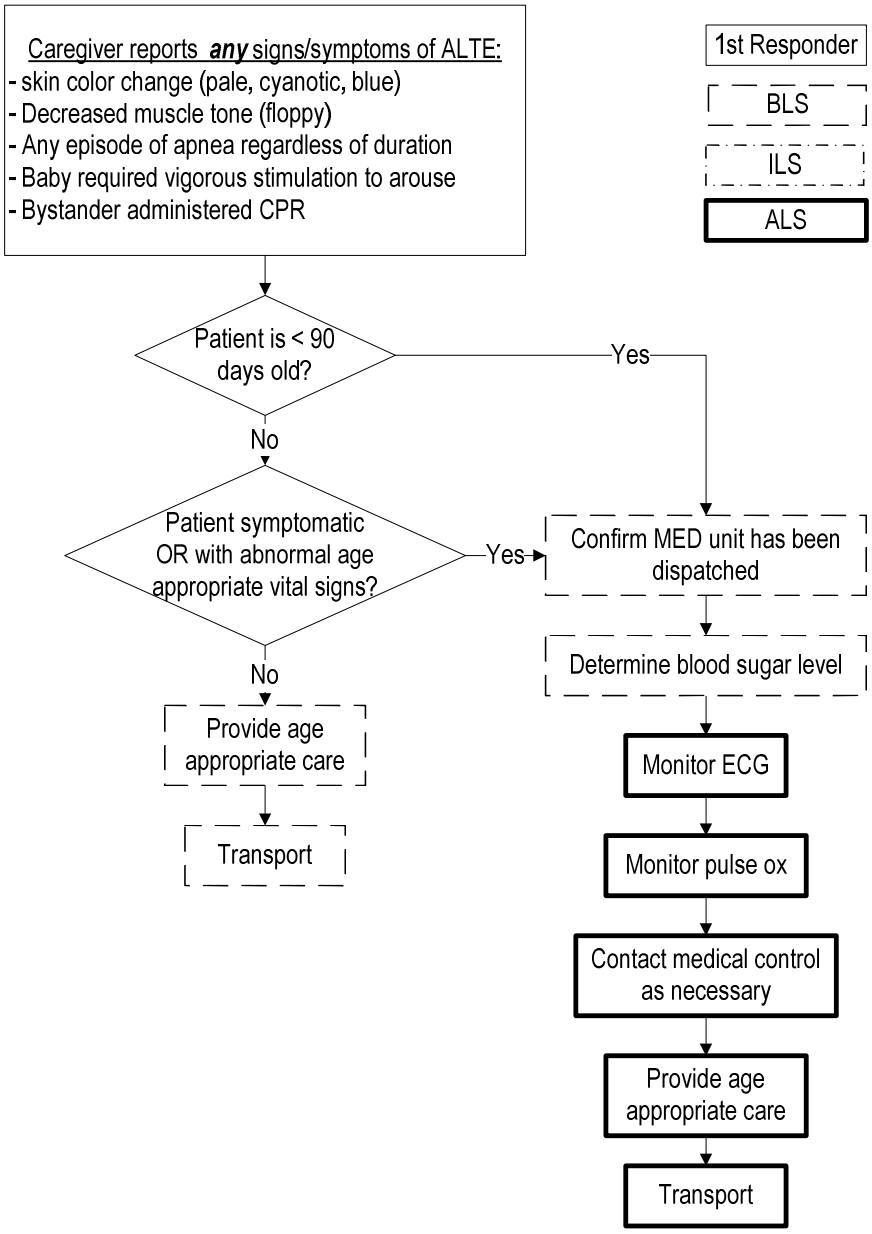


NOTES:

- PASG is contraindicated in thoracic aneurysm/dissection.
- Rapid transport to the closest appropriate facility is mandatory for all suspected aortic aneurysms and dissections. These patients may need immediate surgery.
- Aortic aneurysms occur most often in elderly males with a history of hypertension and/or arteriosclerosis.
- Thoracic aortic aneurysms may have signs and symptoms of stroke or myocardial infarction.

APPARENT LIFE THREATENING EVENT (ALTE)

History	Signs/Symptoms	Working Assessment
Respiratory infection GI reflux Seizure Premature birth Drug exposure Shaken baby syndrome (child abuse) Cardiac arrhythmia	May be asymptomatic at time of assessment	Apparent Life Threatening Event (ALTE)



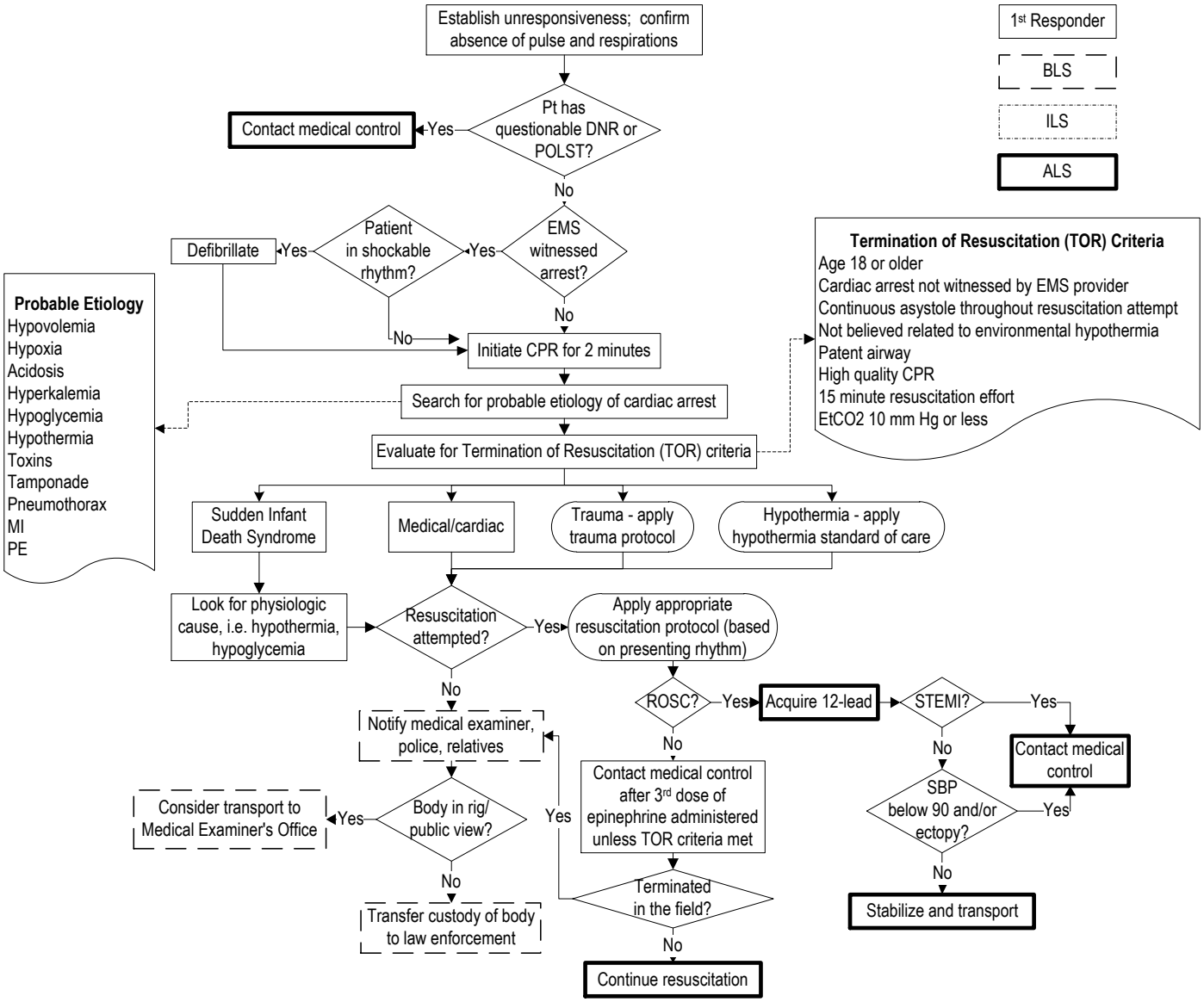
ā	Before	DKA	diabetic ketoacidosis
AAA	abdominal aortic aneurysm	DOA	dead on arrival
Abd	abdomen	DOE	dyspnea on exertion
ACS	acute coronary syndrome	DM	diabetes mellitus
AED	automatic external defibrillator	d/t	due to
AHA	American Heart Association	dx	diagnosis
AIDS	acquired immune deficiency syndrome	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		

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	MILWAUKEE COUNTY EMS	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	STANDARD OF CARE	
Revision: 2	**ASSESSMENT PARAMETERS**	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: 11/73	**MILWAUKEE COUNTY EMS PRACTICE GUIDELINE**	Approved by: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 7/1/14		
Revision: 30	**CARDIAC ARREST**	Page 1 of 1



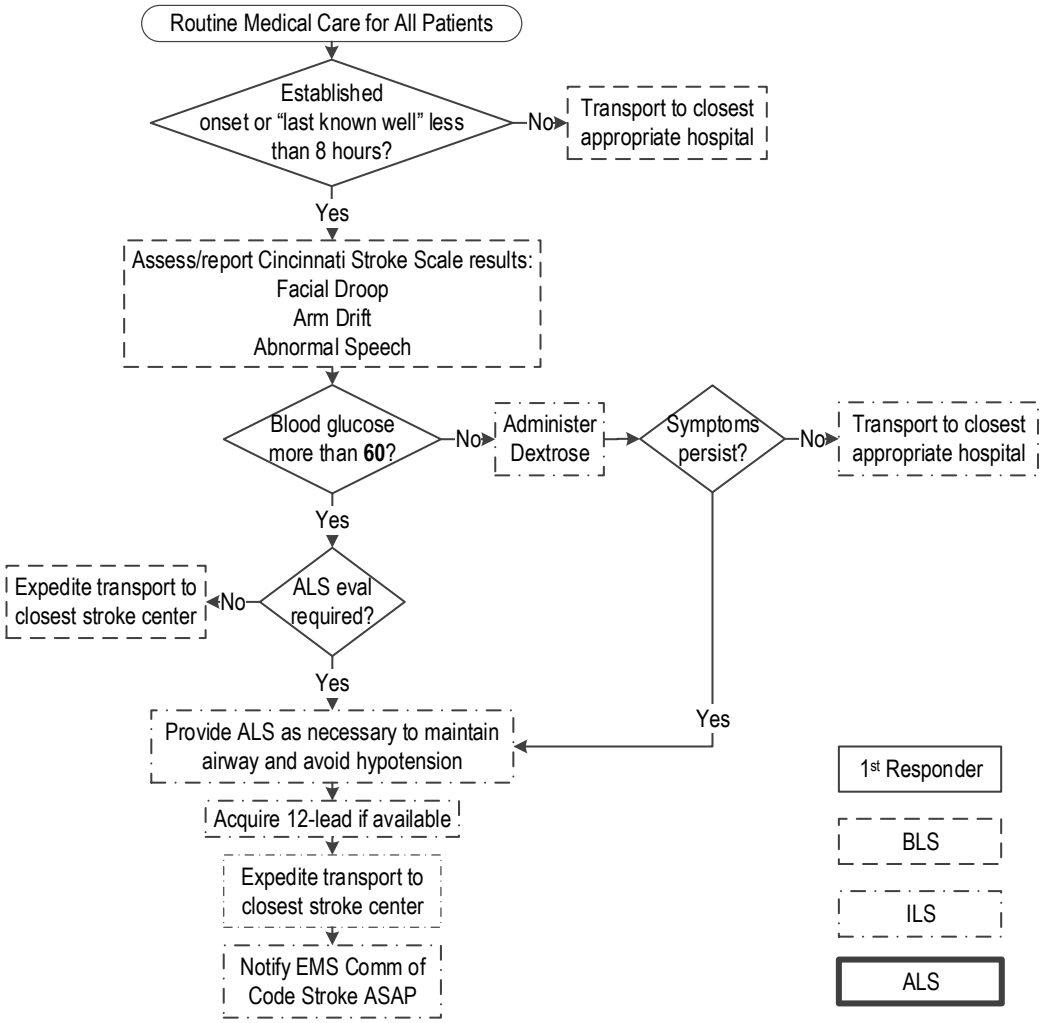
NOTES:

- BLS shall be started on all patients in cardiac arrest with the exception of victims with: decapitation; rigor mortis; evidence of tissue decomposition; dependent lividity; presence of a valid Do-Not-Resuscitate or POLST (Physician Orders for Life-Sustaining Treatment); fire victim with full thickness burns to 90% or greater body surface area; hypothermic patients with signs of frozen tissue, rigid airway, ice formation in mouth, or chest noncompliant for CPR.
  - A responding paramedic may cease a BLS initiated resuscitation attempt if:
    - No treatment other than CPR, non-visualized airway insertion, and/or AED application with no shock advised ***OR*** patient is in traumatic arrest and ECG shows asystole or wide complex PEA at a rate less than 30 ***OR*** core temperature is less than 10 °C or 50 °F.
    - If the patient meets termination of resuscitation (TOR) criteria
- Resuscitation must be attempted in traumatic cardiac arrests if the patient is in Vfib (defibrillate once and transport) or if the patient has a narrow QRS complex, regardless of the rate.
- The system standard is: CPR will be provided whenever patient is pulseless; compressions at least 100/minute; hands on chest more than 75% of time; minimum compression depth of 2 inches in adults 75% of the time.
- If a fire victim has ROSC, hypotension or altered consciousness, evaluate for possibility of cyanide poisoning and consider administration of hydroxocobalamin (refer to Cyanide Poisoning protocol).
- Please call the Research Line at 805-6493 to report all cardiac arrests, including DOA.
- There is no evidence of naloxone improving the chance of ROSC when a patient is in cardiac arrest due to a narcotic / opiate overdose. Focus should be on standard CPR/ACLS with good CPR and mechanical ventilation rather than attempts with naloxone.

Initiated: 9/92	**MILWAUKEE COUNTY EMS PRACTICE GUIDELINE**	Approved by: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 11-1-14		
Revision: 7	**CEREBROVASCULAR**	Page 1 of 1

ACCIDENT/ TRANSIENT ISCHEMIC ATTACK (CVA/TIA)

History:	Signs/Symptoms:	Working Assessment:
High blood pressure Cigarette smoking History of CVA or TIAs Heart Disease Diabetes mellitus Atrial fibrillation Medications (anticoagulants) Positive family history Recent surgery	Unilateral paralysis or weakness Numbness, weakness Facial droop Language disturbance Visual disturbance Monocular blindness Vertigo Headache Seizures	CVA or TIA *Consider other causes*: Hypoglycemia/metabolic disorder Seizure disorder Trauma Ingestion/intoxication Infection Migraine Tumor



NOTES:

- Report to receiving hospital should include positive ***and*** negative results for Cincinnati Stroke Scale, addressing all three areas. Take precautions to avoid accidental injury to paralyzed extremities during patient movement.
- Minimize scene time to less than 10 minutes if last known well time is established as less than 8 hours.
- Do not administer oral medications

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

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- 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.

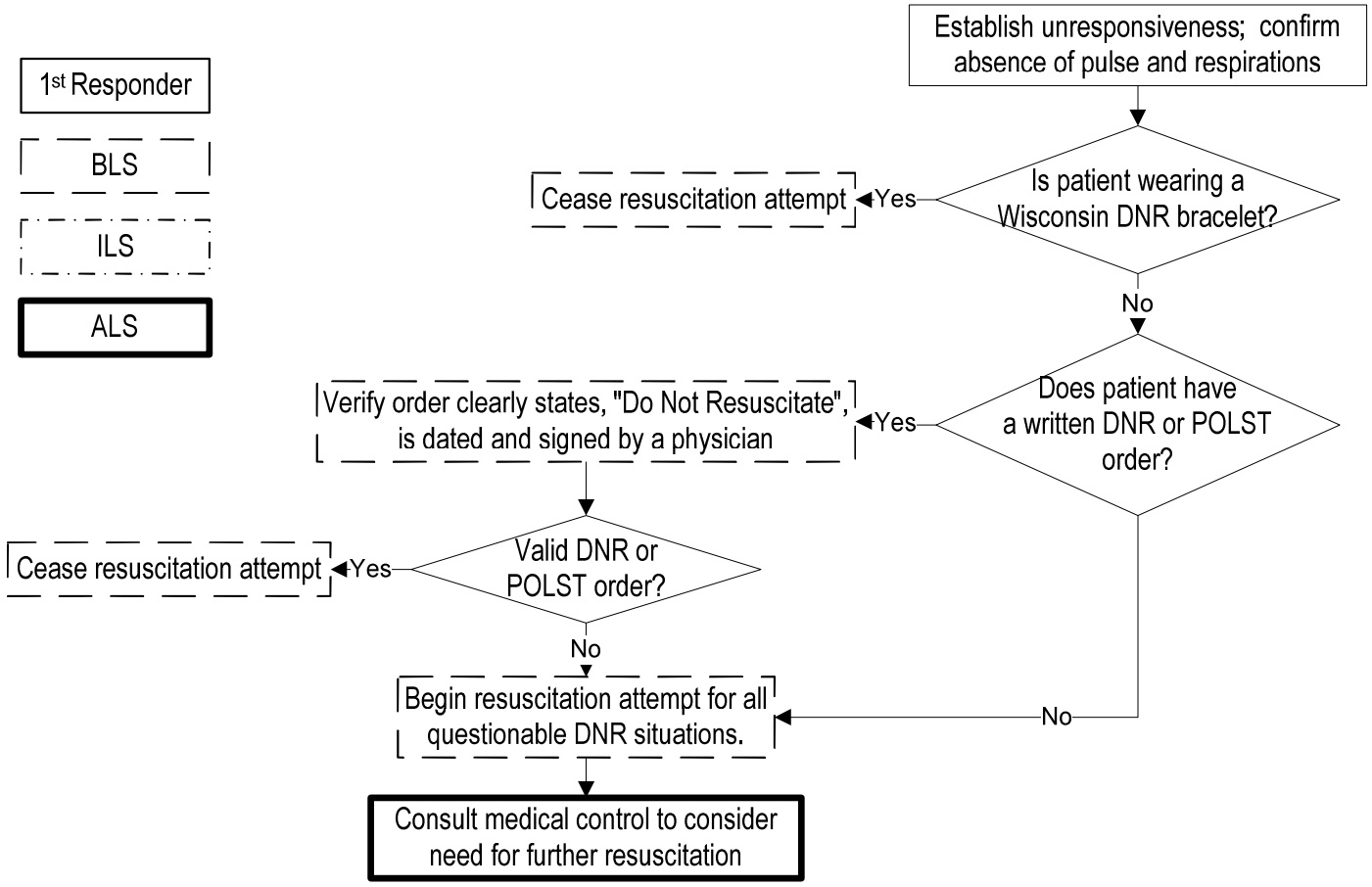
NOTES:

- 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: 5/10/00
Reviewed/revised: 2-23-13
Revision: 7

MILWAUKEE COUNTY EMS STANDARD OF CARE
DO NOT RESUSCITATE ORDERS

Approved: M. Riccardo Collella, DO, MPH, FACEP
Page 1 of 1

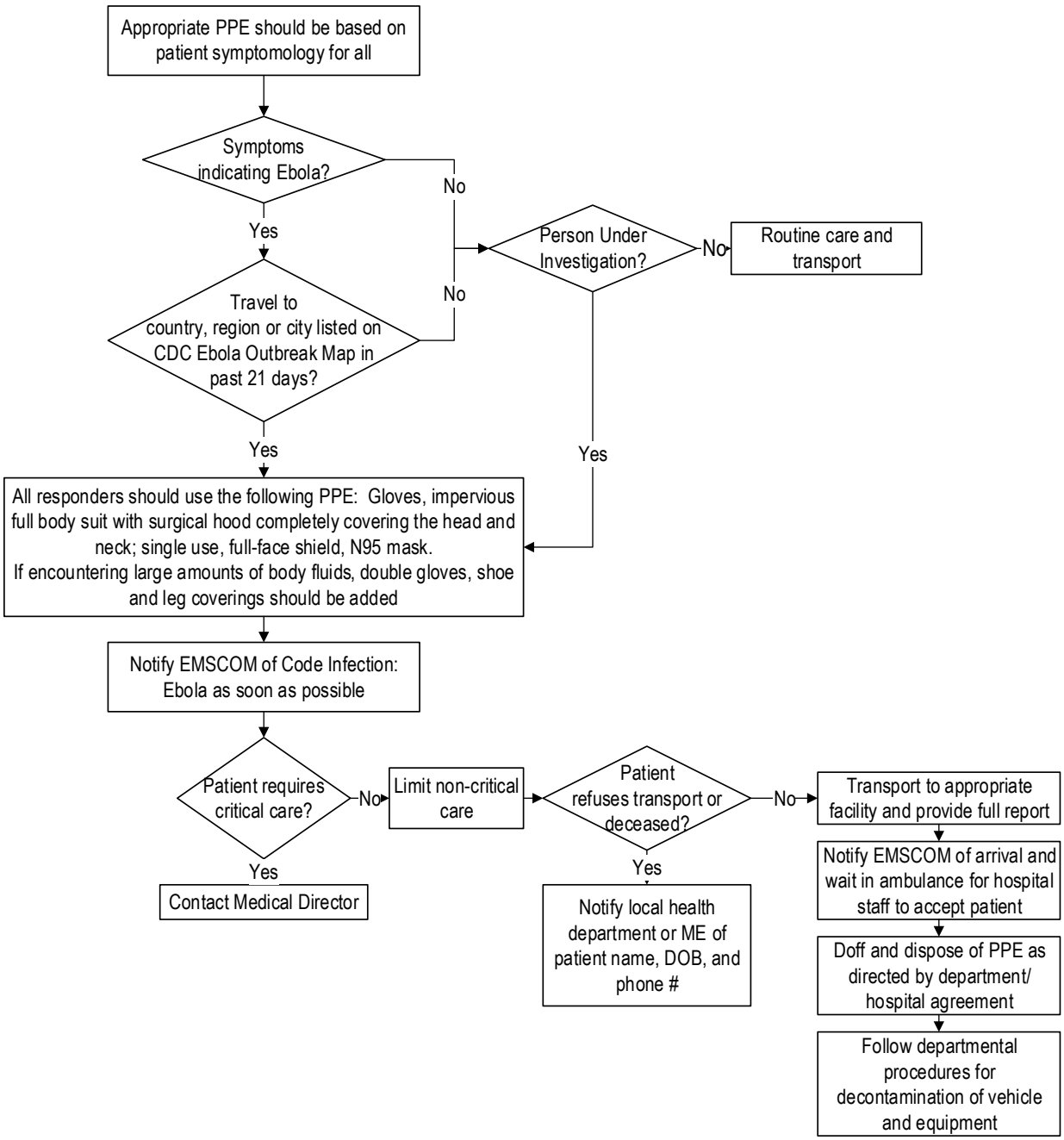


NOTES:

- POLST – Physician Orders for Life-Sustaining Treatment
- A “medic alert” bracelet qualifies as a DNR order for all EMS providers
- A patient’s guardian may override the DNR order. For these situations, begin resuscitation efforts and consult medical control for further orders.
- EMS providers may not accept verbal orders from a private physician who is not physically present at the scene. Input from the private physician is welcomed, but should be communicated directly to medical control. The EMS team should facilitate the communication between those physicians.
- An on-scene physician accepting responsibility for the care of the patient must write, sign and date a "Do-Not-Resuscitate" order on the EMS run report.
- Modification of or withholding medical care based on a "Living Will" or "Medical/Health Care Power of Attorney" or other document must be approved by medical control. Appropriate medical care will be provided to the patient while a direct order from medical control is obtained.

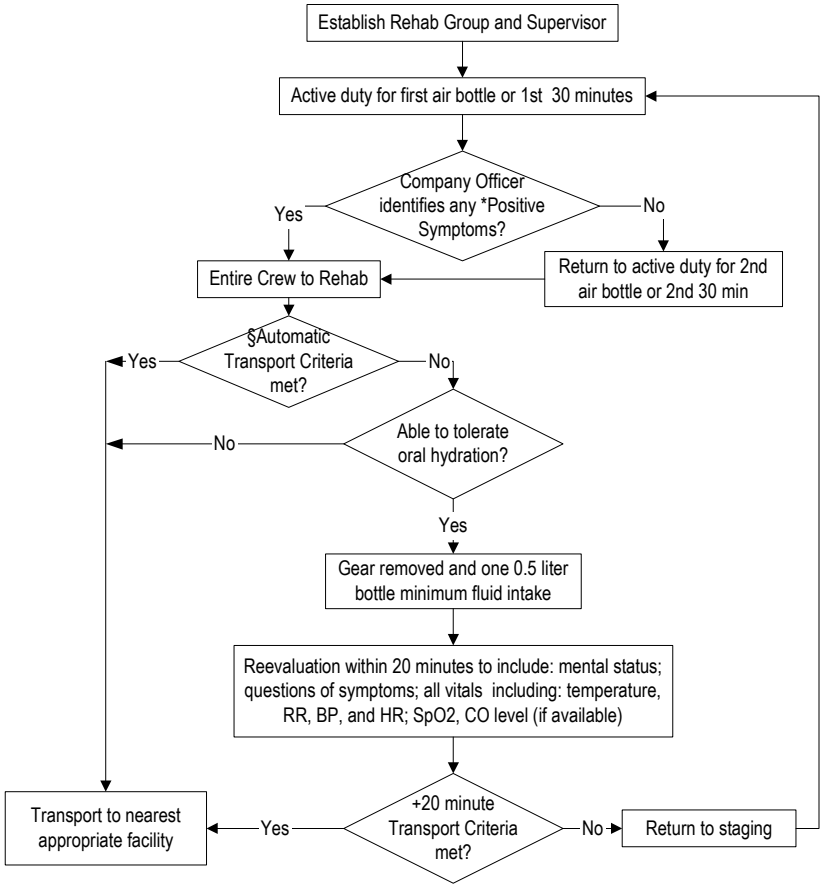
Initiated: 11/1/14	**MILWAUKEE COUNTY EMS PRACTICE GUIDELINE**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised:	**EBOLA**	
Revision:		Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Travel to country, region or city listed on the CDC Ebola Outbreak Map within the last 21 days Exposure/contact with known Ebola Patient Currently being monitored as a Person Under Investigation (PUI) by the CDC, state or local health authority	Fever Headache Diarrhea Nausea/Vomiting Abdominal pain Unexplained bleeding or bruising	Ebola



Note:
Link to CDC Ebola Outbreak Map: http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/distribution-map.html

Initiated: 2/27/02	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**EMERGENCY INCIDENT REHABILITATION**	
Revision: 2		Page 1 of 1



Transport Criteria Based on ALS Evaluation of Signs or Symptoms

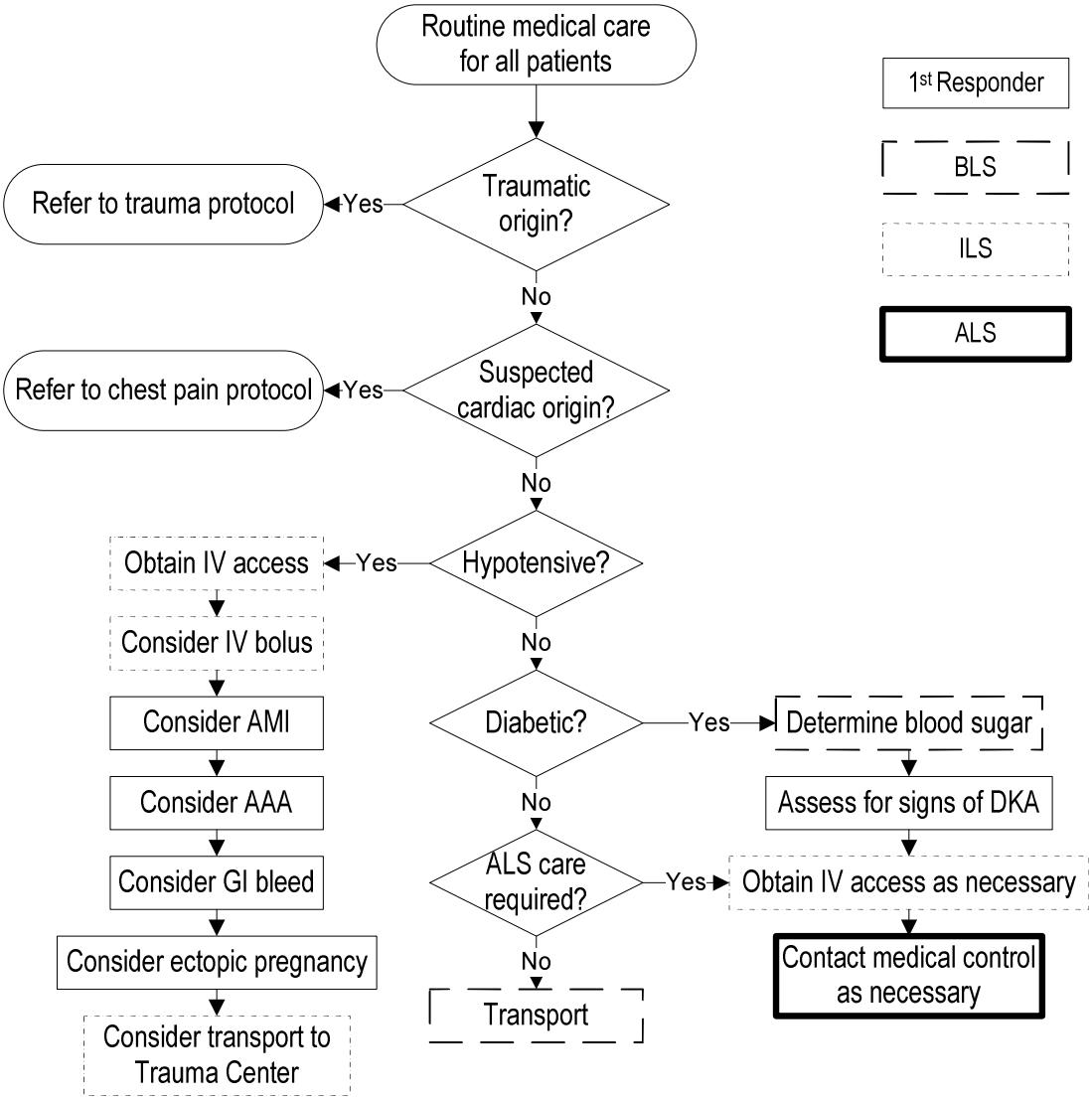
*Positive Symptoms	§Automatic Transport Criteria	+20-Minute Transport Criteria
• Headache • Dizziness • Nausea/vomiting • Vision abnormalities • Paresthesias (numbness and/or tingling)	• Chest pain • Confusion • Shortness of breath • Palpitations or irregular heart beat sensations	• Any Automatic Transport 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% • SpO_2 level less than 94

NOTES:

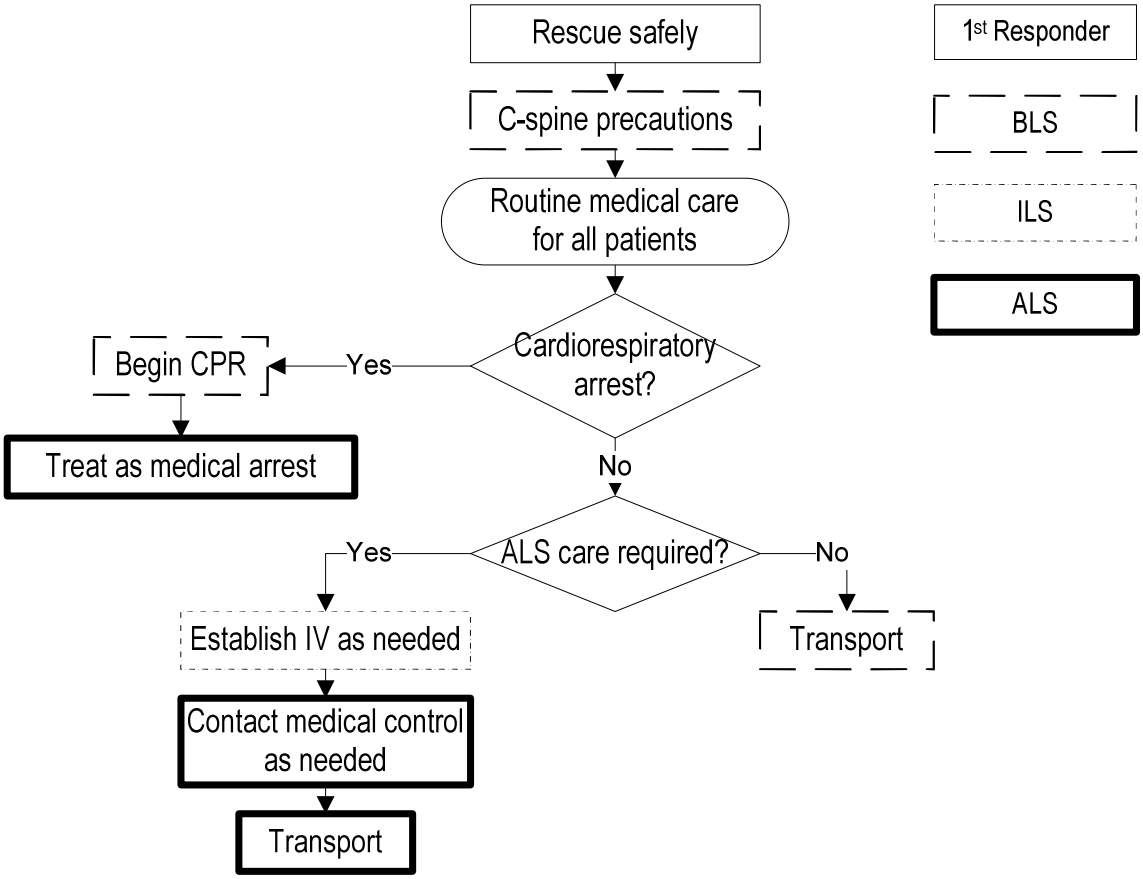
- After the first air bottle, the entire crew must report to rehab if any member reports positive symptoms. Symptomatic crewmembers must remain in rehab; other nonsymptomatic crewmembers are to report as directed by Group Supervisor.
- The Incident Safety Officer is responsible for assessment of the 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: 9/94	MILWAUKEE COUNTY EMS STANDARD OF CARE GASTROINTESTINAL/ ABDOMINAL COMPLAINTS	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		
Revision: 3		Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
History of abdominal problems: Ulcers, hiatal hernia, surgery Renal, liver, pancreatic, gall bladder disease Onset, duration, severity, radiation of pain Character of pain: crampy, sharp, dull, constant Last meal	Pain Nausea, vomiting Diarrhea Change in elimination patterns Guarding, rigidity Hematemesis, melena Distention	Abdominal pain GI bleed Acute abdomen Organ disease *Consider other causes:* Acute MI Abdominal aneurysm Ectopic pregnancy Diabetic ketoacidosis



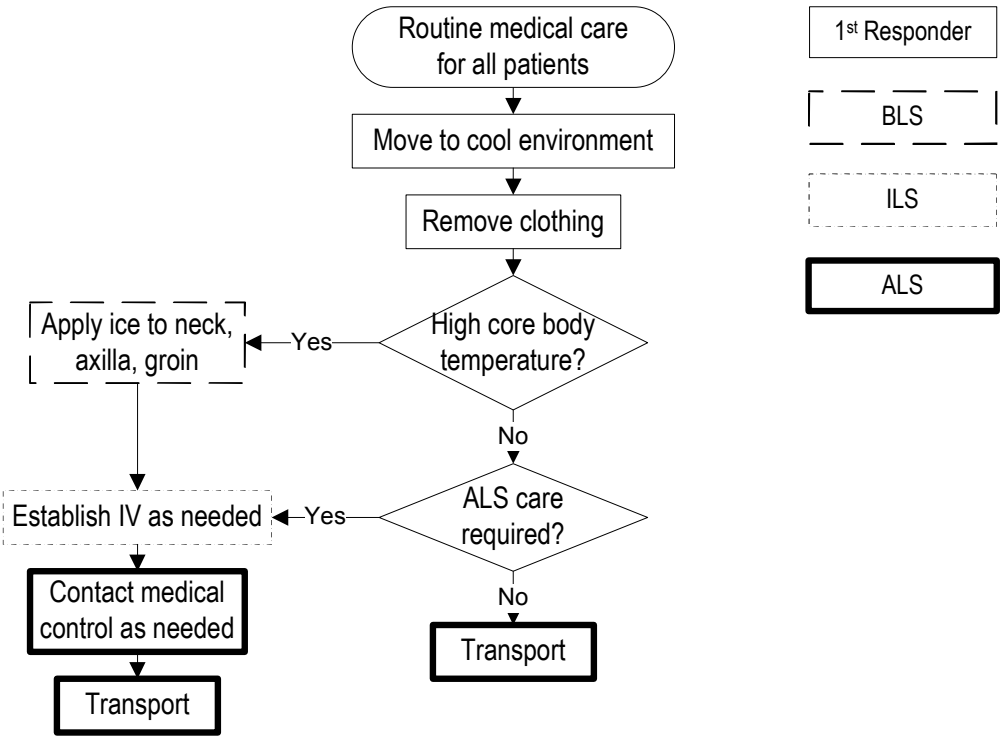
History:	Signs/Symptoms:	Working Assessment:
Patient found hanging	Altered level of consciousness Possible c-spine injury Possible cardiac arrest Respiratory distress	Hanging



NOTES:

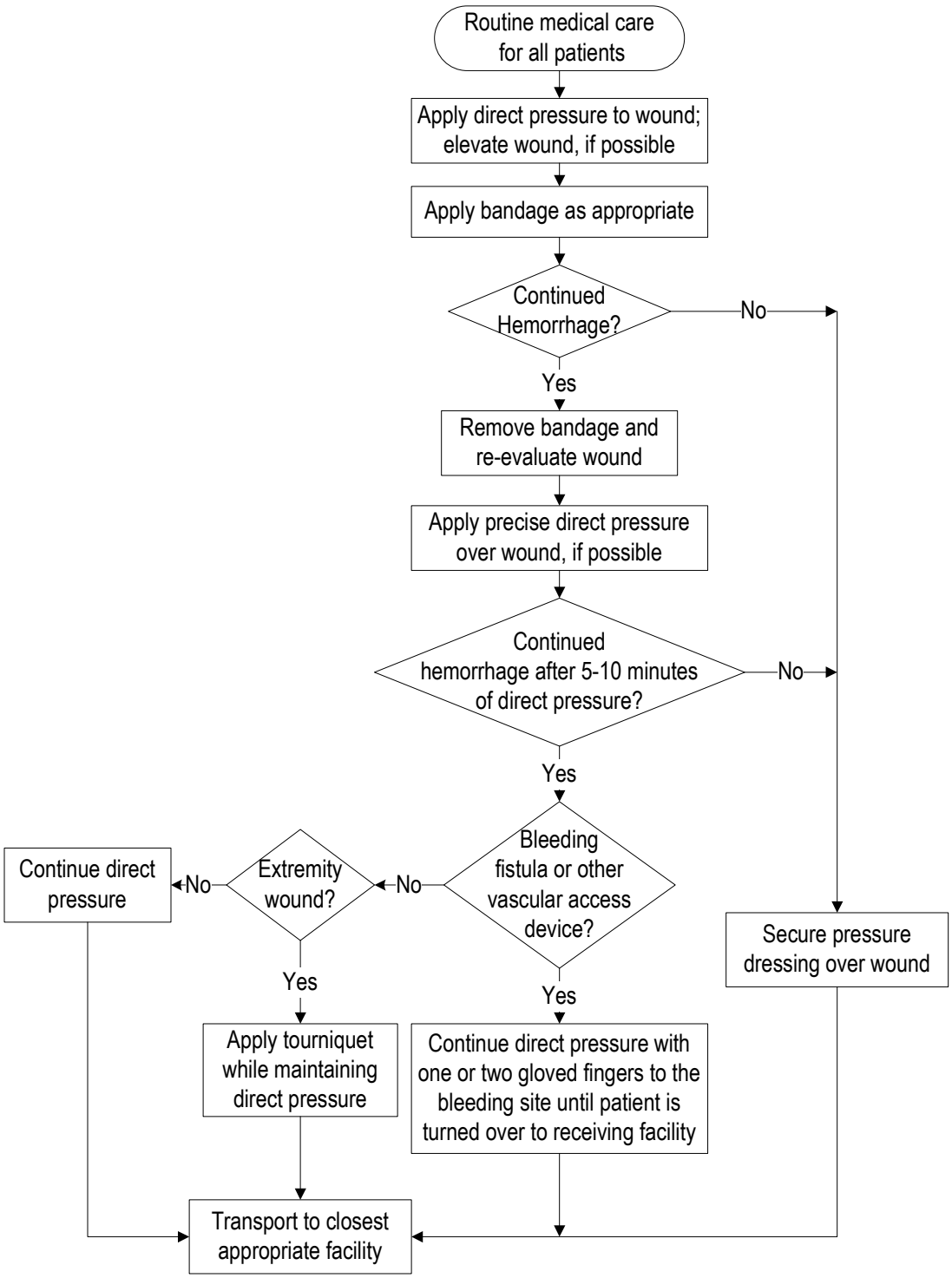
- A patient in cardiorespiratory arrest is to be treated as a medical arrest and resuscitation is to be attempted at the scene.
- Attempt to determine and document accidental versus intentional injury, history of substance abuse and history of prior suicide attempts.
- Attempt to determine length of time patient was hanging.

History:	Signs/Symptoms:	Working Assessment:
Exposure to increased temperatures and/or humidity Physical exertion Decreased fluid intake Patient taking antidepressants or antipsychotic medications Patient age - very young or elderly	Altered level of consciousness Hot, dry or sweaty skin Hypotension or shock Seizures Nausea/vomiting Fatigue Muscle cramping	Heat cramps Heat exhaustion Heat stroke



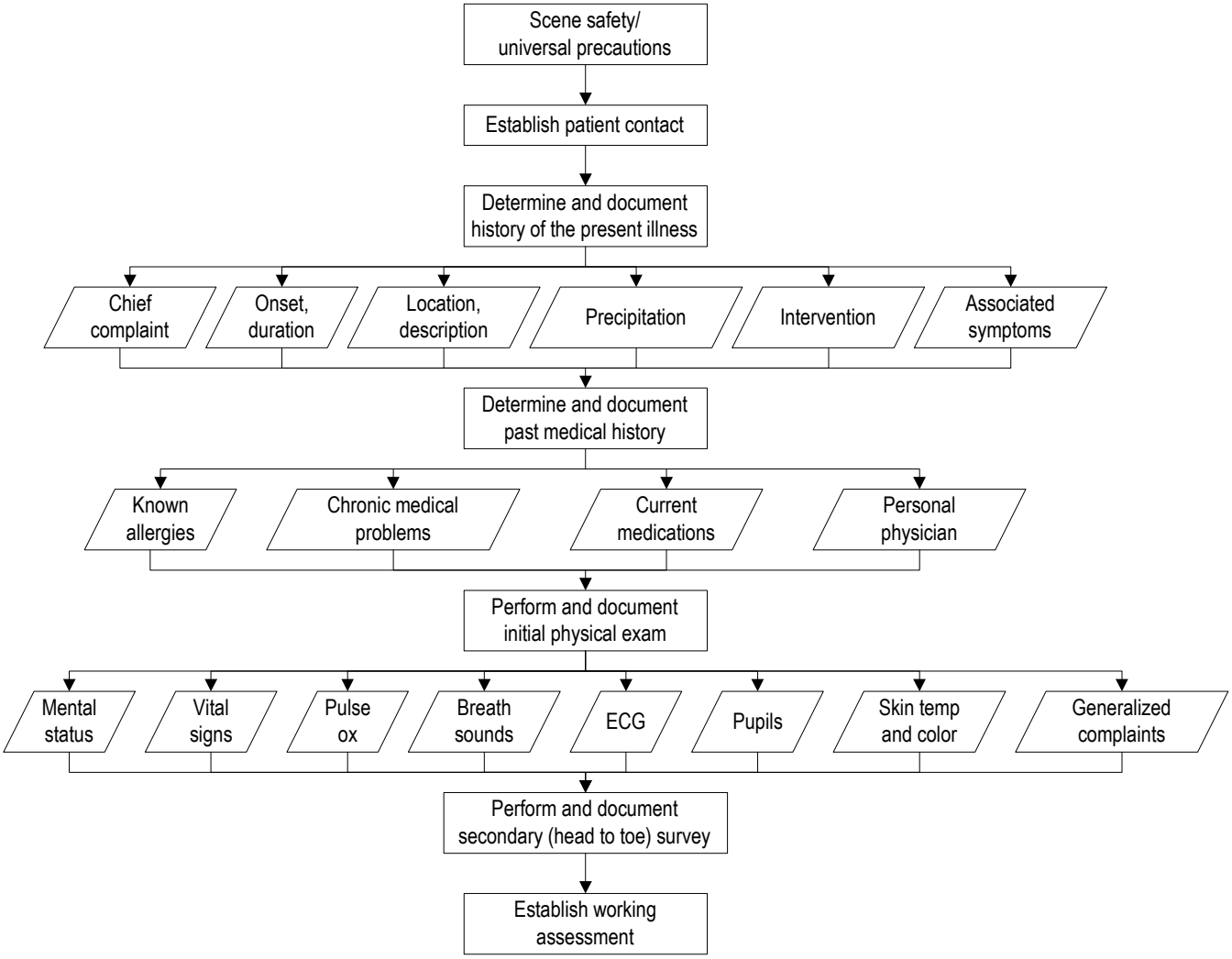
NOTES:

- The following patients are more prone to heat related illnesses:
  - Very young and elderly patients;
  - Patients on antidepressants, antipsychotic medications, or patients who have ingested alcohol.
- Cocaine, amphetamines, and salicylates may elevate body temperature.
- **Heat cramps** consist of benign muscle cramping due to dehydration and are not associated with elevated core temperature.
- **Heat exhaustion** consists of dehydration, dizziness, fever, mental status changes, headache, cramping, nausea and vomiting. Patients are usually tachycardic, hypotensive and hyperthermic.
- **Heat stroke** consists of dehydration, tachycardia, hypotension, temperature over 104°F (40°C). Patients with heat stroke generally lose the ability to sweat.



Notes:

- Direct pressure is the best method to control bleeding.
- Tourniquets should not be used on limbs with dialysis fistulas except in cases of traumatic penetration, amputation, or crush injury without response to direct pressure.
- Direct pressure should be applied with a gloved hand and/or pressure dressing.

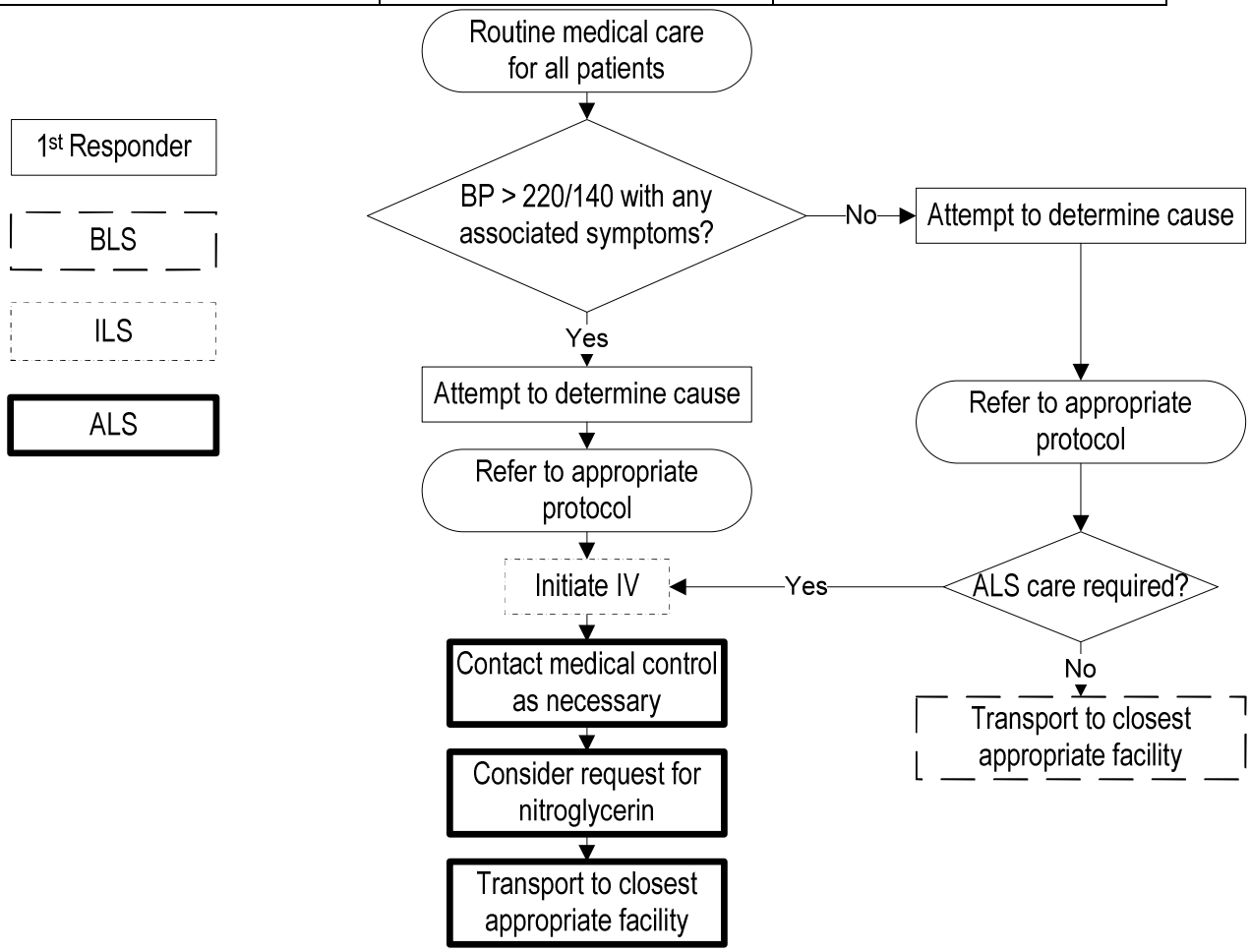


NOTES:

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

Initiated: 5/10/00	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		
Revision: 3	**HYPERTENSION**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
History of hypertension Taking antihypertensives Pregnant Renal disease or on renal dialysis Cocaine use within the last 24 hours	Blood pressure above ***220/140 and*** any of the following: Headache Dizziness Weakness Epistaxis Blurred vision Nausea, vomiting Seizure Altered level of consciousness	Hypertensive crisis Eclampsia Cocaine induced hypertension

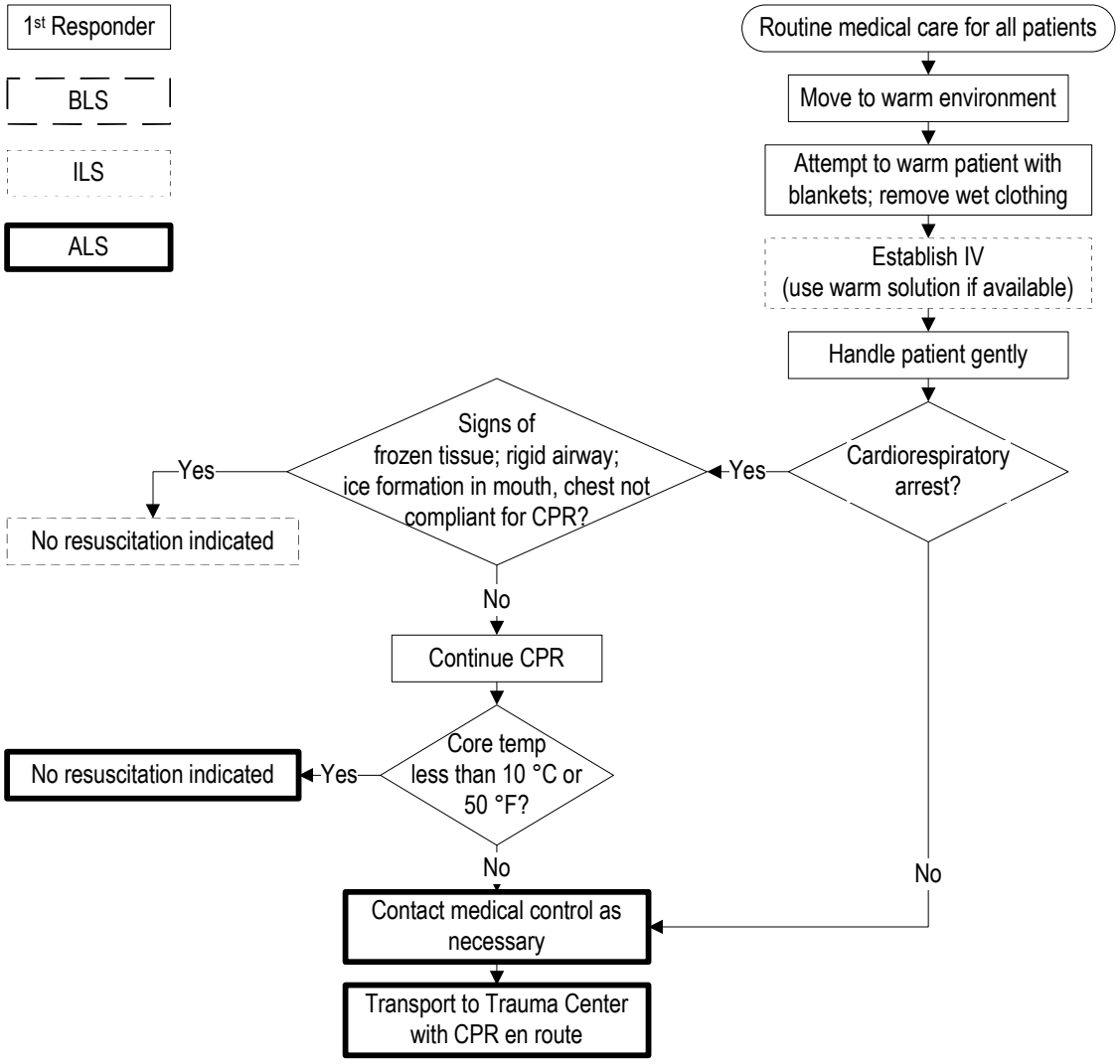


NOTES:

- Be sure to obtain multiple blood pressure readings.
- Treat the patient not the blood pressure.
- When considering request for nitroglycerin, be sure to determine if patient has used Viagra or Viagra-like medications within the last 24 hours.

Initiated: 7/94	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2-15-12		
Revision: 5	**HYPOTHERMIA**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Exposure to environment Extremes of age Drug use: Alcohol, barbiturates Patient wet History of infection	Cold Shivering or not Altered level of consciousness Pain or altered sensation to extremities Bradycardia Hypotension/shock	Hypothermia

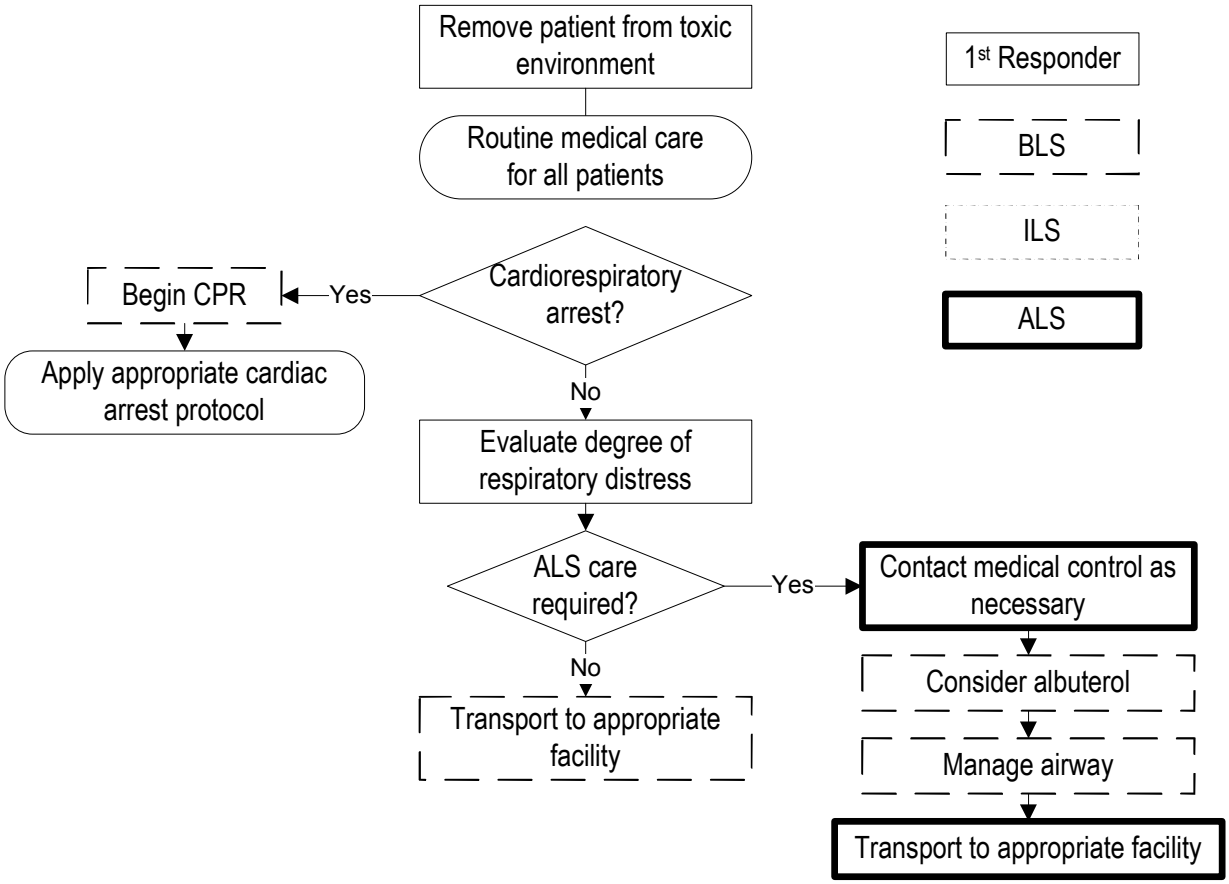


NOTES:

- Hypothermia is defined as a core temperature less than or equal to 32°C or 90°F.
- Young and old patients are more susceptible to hypothermia.
- Shivering stops below 90°F or 32°C
- Hypothermic patients should be handled gently in an attempt to avoid ventricular fibrillation.
- Hypothermia may cause severe bradycardia. Pulses should be palpated for one full minute.

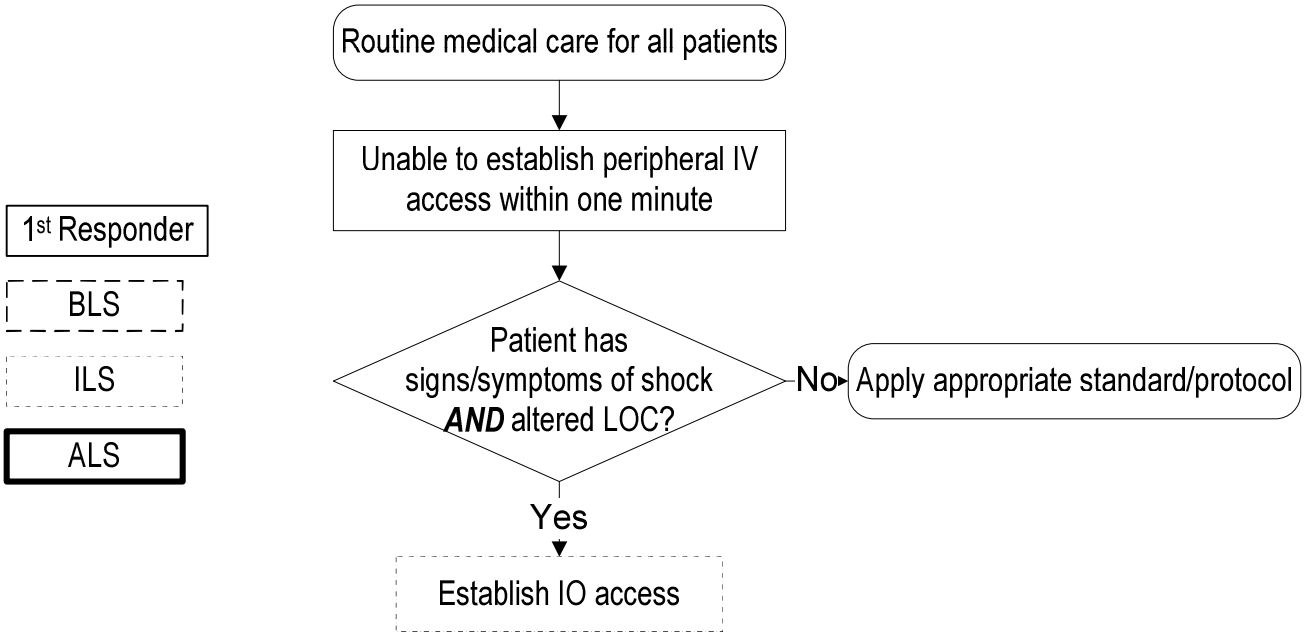
Initiated: 9/92	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/16/12		
Revision: 6	**INHALATION INJURY**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
History of exposure to smoke or chemicals	Burns to face, chest or mouth Carbonaceous sputum Singed nasal hair Dyspnea Altered level of consciousness	Inhalation injury



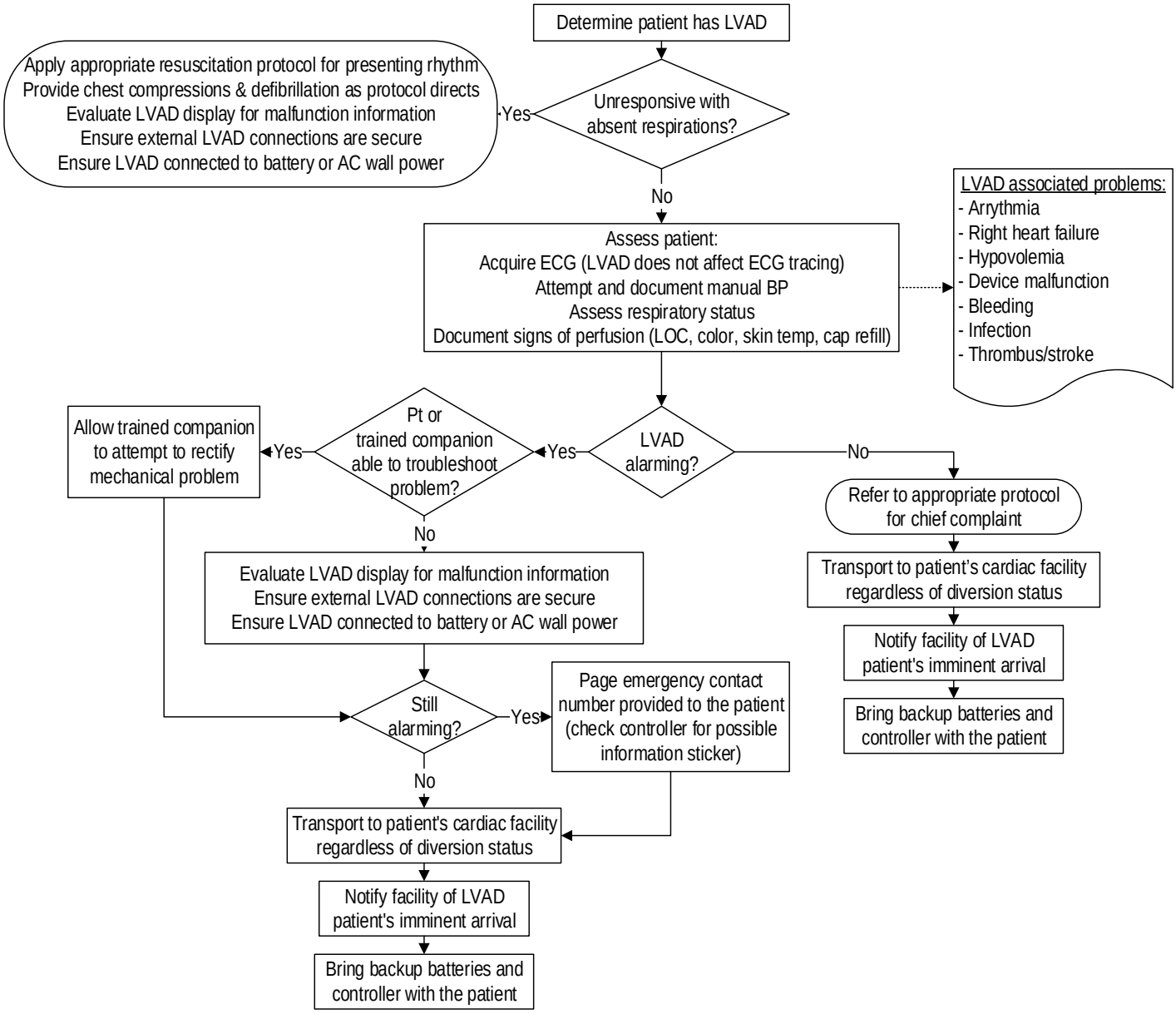
NOTES:

- Adult patients (≥ 8 years old) who suffered burns with an inhalation injury are to be transported to the Burn Center.
- All patients with suspected CO poisoning with altered mental status and *without* associated burns or trauma should be transported to the closest hyperbaric chamber.
- Pediatric patients (< 8 years old) who suffered burns with an inhalation injury are to be transported to Children's Hospital of Wisconsin.
- Pediatric patients (<8 years old) with suspected inhalation burn are to be transported to Children's Hospital of Wisconsin.
- If a fire victim has ROSC, hypotension or altered consciousness, evaluate for possibility of cyanide poisoning and consider administration of hydroxocobalamin (refer to Cyanide Poisoning protocol).



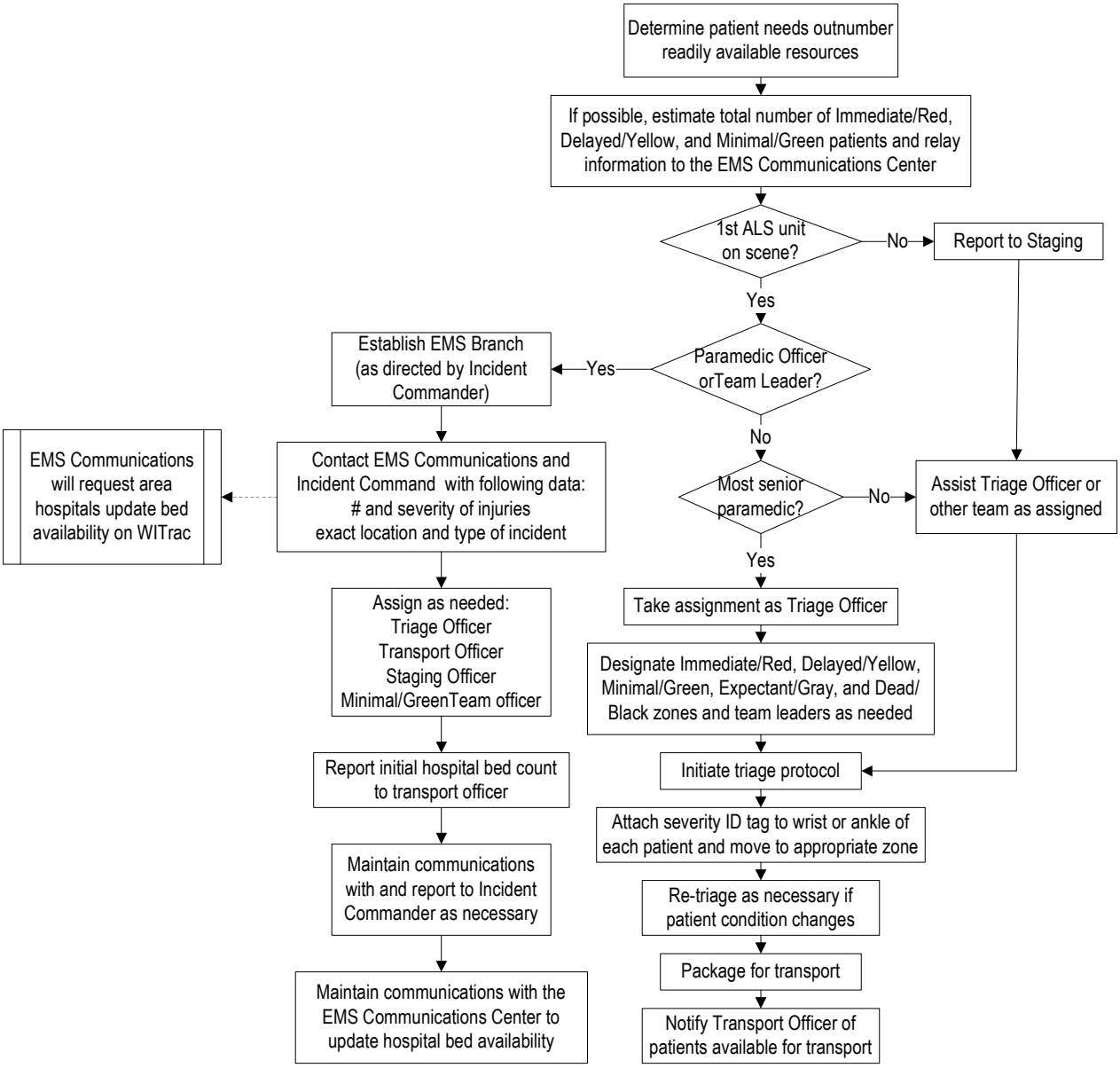
Notes:

- Inability to locate an appropriate vein site is equivalent to an attempt. It is not necessary to actually penetrate the skin with a needle *for this protocol only.*
- Contraindications to the use of the intraosseous route are major extremity trauma (fractured femur/tibia or evidence of internal/external thigh hemorrhage), and area of infection over the proposed insertion site (infected skin, abscess, etc.).
- The preferred order of route of administration for parenteral medications in immediate life-threatening situations is (due to effectiveness): peripheral IV, IO, chronic indwelling catheter with external port, ET.



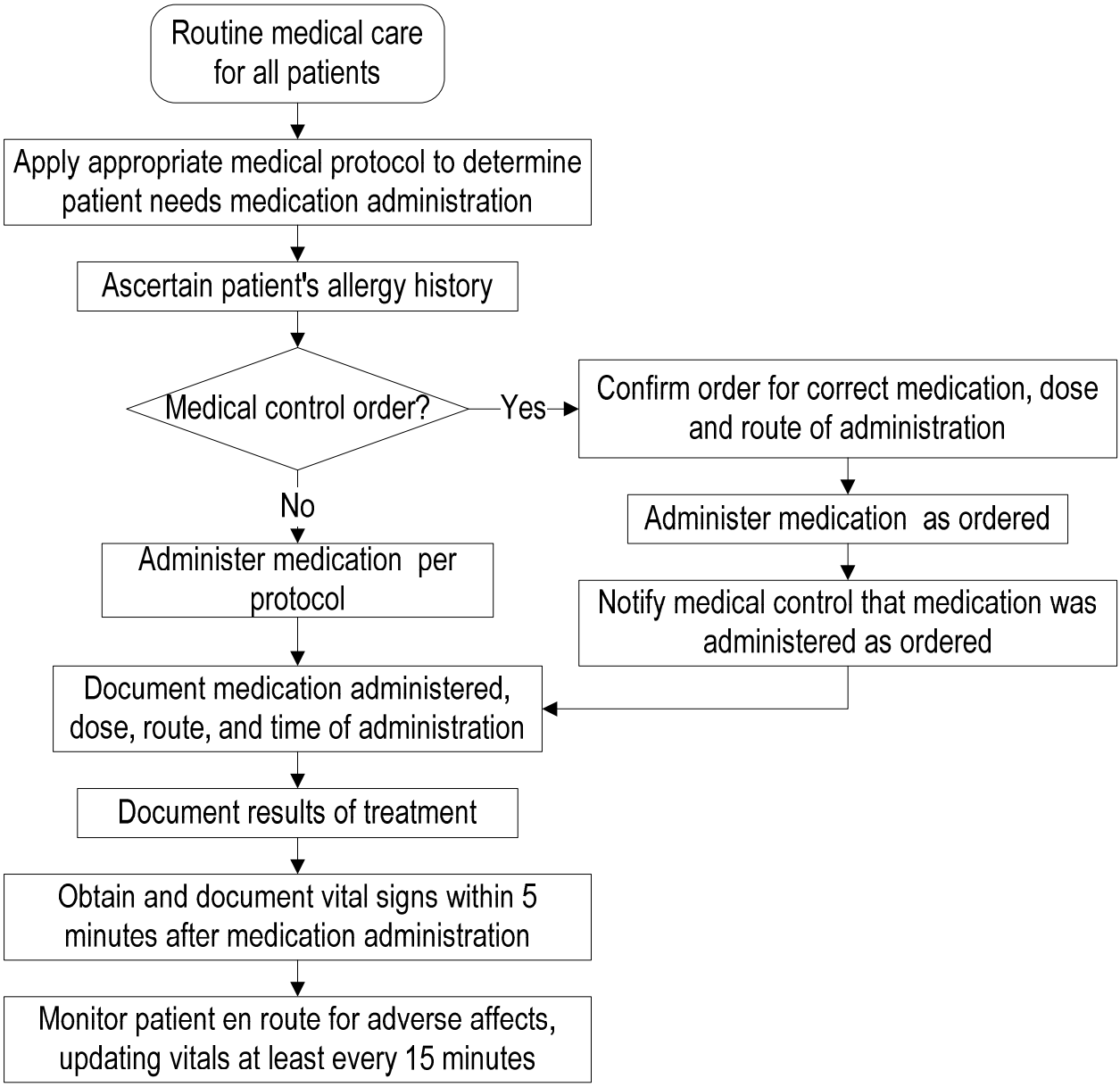
NOTES:

- LVADs *do not generally produce a palpable pulse in the patient.* Assess for other signs of adequate perfusion (alert, warm skin, capillary refill).
- Blood pressures in LVAD patients may be very difficult to detect. *This is normal for the device!*
  - When attempting to obtain a blood pressure, you may only hear one change in sound. This is the mean pressure and should be 60 – 90 mm Hg. Document this as the systolic BP.
- *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 hospitals are St. Luke's – Main Campus or Froedtert for adults, CHW for pediatric patients.* Be sure to inform the receiving hospital the patient en route has a LVAD.



NOTES:

- Utilization order of EMS resources is:
  - Local EMS agency and mutual aid units (including air ambulances)
  - Zone resources (MABAS)
  - Activation of Milwaukee County Disaster Plan (Annex H-3) 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.
- Refer to the S.A.L.T. Triage standard of care for patient assessment.
- BLS transport units should use MCI ambulance to hospital communication protocol.
- EMS units should report back to staging after transport until released by the Incident Commander.



NOTES:

- Any medication order inconsistent with the usual dose should be questioned and discussed with medical control prior to administration.

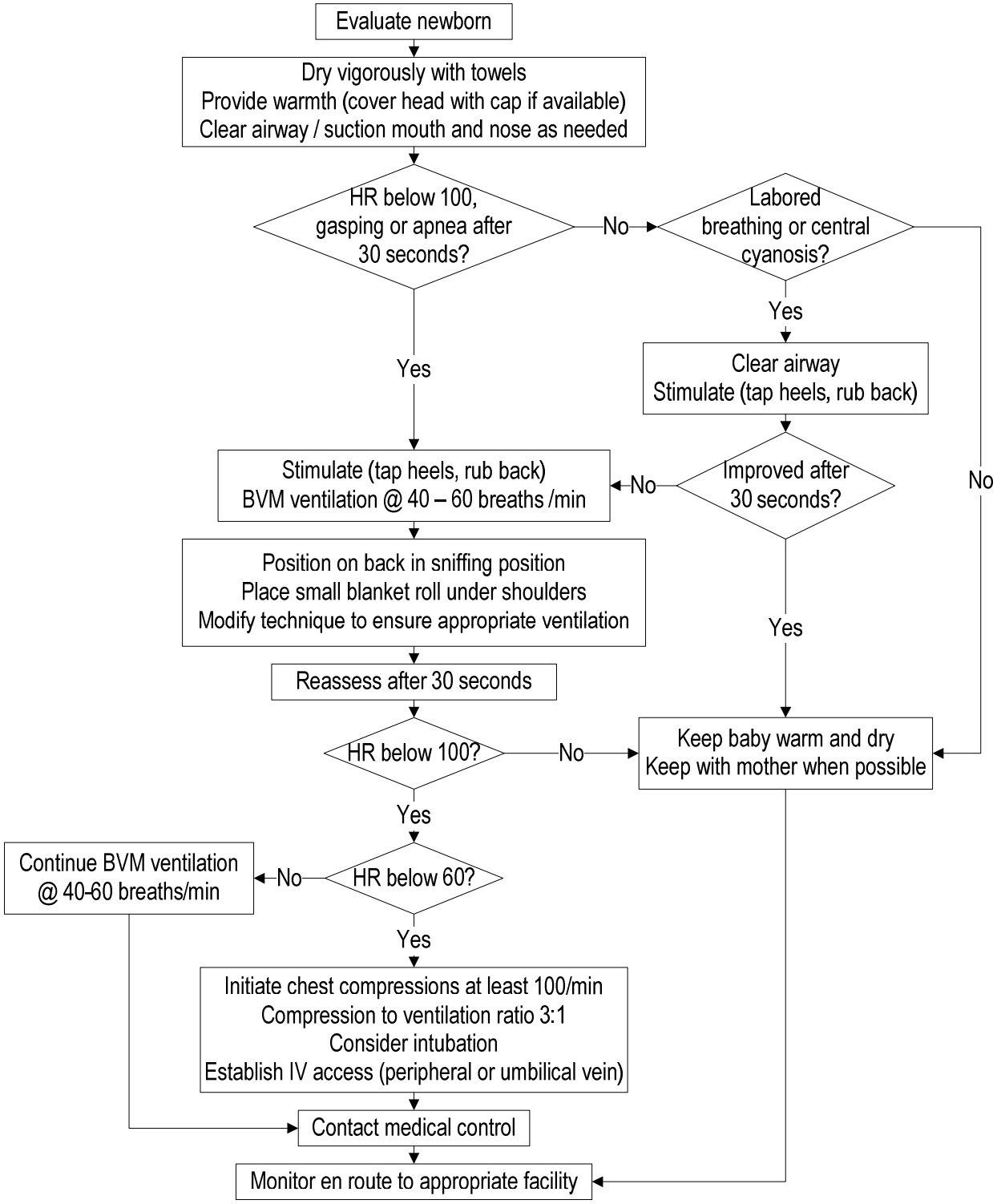
- The patient's gag reflex must be present, and the patient must be cooperative, understand and be able to follow instructions for all oral medication administration.

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	MONITOR, REPORT, DOCUMENT	CONTRAINDICATIONS
Adenosine 12 mg in 4 mL Prefilled syringe	12 mg rapid IV/IO	1st dose - 0.1 mg/kg 2nd dose - 0.2 mg/kg Max dose 12 mg	Continuous ECG Attempt to record conversion	Heart block Heart transplant Resuscitated PNB
Albuterol/Ipratropium (Ventolin/Atrovent) 2.5 mg albuterol / 0.5 mg ipratropium in 3 mL Unit dose	5 mg albuterol / 1 mg ipratropium in 3 mL, nebulized *Do not dilute* Max dose 15 mg albuterol/ 3 mg ipratropium	2.5 mg albuterol / 0.5mg ipratropium in 3 mL, nebulized *Do not dilute* Max dose 7.5 mg albuterol/ 1.5 mg ipratropium	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 mL Carpuject	300 mg IV/IO bolus *for cardiac arrest only* 150 mg add to 100 mL D5W, IV/IO, run over 10 minutes	5mg/kg IV/IO bolus *for cardiac arrest only* 5mg/kg add to 100 mL D5W, IV, run over 10 Minutes Max dose 300 mg	ECG changes	2nd or 3rd 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 Pregnancy
Atropine 1mg in 10 mL Prefilled	0.5 - 1 mg IV/IO 2 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 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 mL Prefilled	100 - 500 mg IV/IO 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 mL bag	Used to dilute amiodarone, lidocaine, sodium bicarbonate	Used to dilute dextrose and sodium bicarbonate	Monitor for infiltration Monitor pediatric blood glucose levels	None
Dextrose 25 g in 50 mL Prefilled	25 g IV bolus or swallowed *IO in cardiac arrest*	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

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	MONITOR, REPORT, DOCUMENT	CONTRAINDICATIONS
Diphenhydramine (Benadryl) 50 mg in 1 mL, 25 mg pills	25 – 50 mg IV/IO, IM, oral	1 mg/kg < 20kg Max dose 25 mg	Changes in level of consciousness	Presence of a self-administered CNS depressant
Dopamine 200 mg in 250 mL Premixed IV	2 – 20 mcg/kg/min IV/IO 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 mL Pralidoxine 600 mg/2 mL 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 1:1000 – 1 mg in 1 mL vial 1:10,000 1 mg in 10 mL Prefilled	1:1000: 0.01 mg/kg IM, or autoinjector Max single dose 0.3mg 1:10,000: 0.5 - 1 mg 2 mg ET	1:1000: 0.01 mg/kg IM, or 0.15 mg autoinjector; max 0.3 mg 1:10,000 IV/IO - 0.01 mg/kg or ET 0.1 mg/kg of 1:1000 Max dose 1 mg	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
Fentanyl 100 mcg/ 2 mL Carpuject/tubex	1 mcg/kg IV/IO bolus, IM, IN Max dose 100 mcg	0.5 – 1mcg/kg Max dose 50 mcg	Change in pain level Changes in respiratory rate and effort	Respiratory depression GCS < 14 Hypotension
Glucagon 1 mg with 1 mL diluting solution	1 mg IM, IN	1 mg IM, IN	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
Hydroxocobalamin (CYANOKIT®) (2) 2.5 g vials Reconstitute each with 100 mL saline or D5W *OR* (1) 5 g vial Reconstitute with 200 mL saline or D5W	5 g IV/IO drip infused wide open 7.5 minutes per vial	70 mg/kg IV/IO drip infused wide open Max dose 5 g	Blood pressure Nausea Headache Site reactions Rash	None

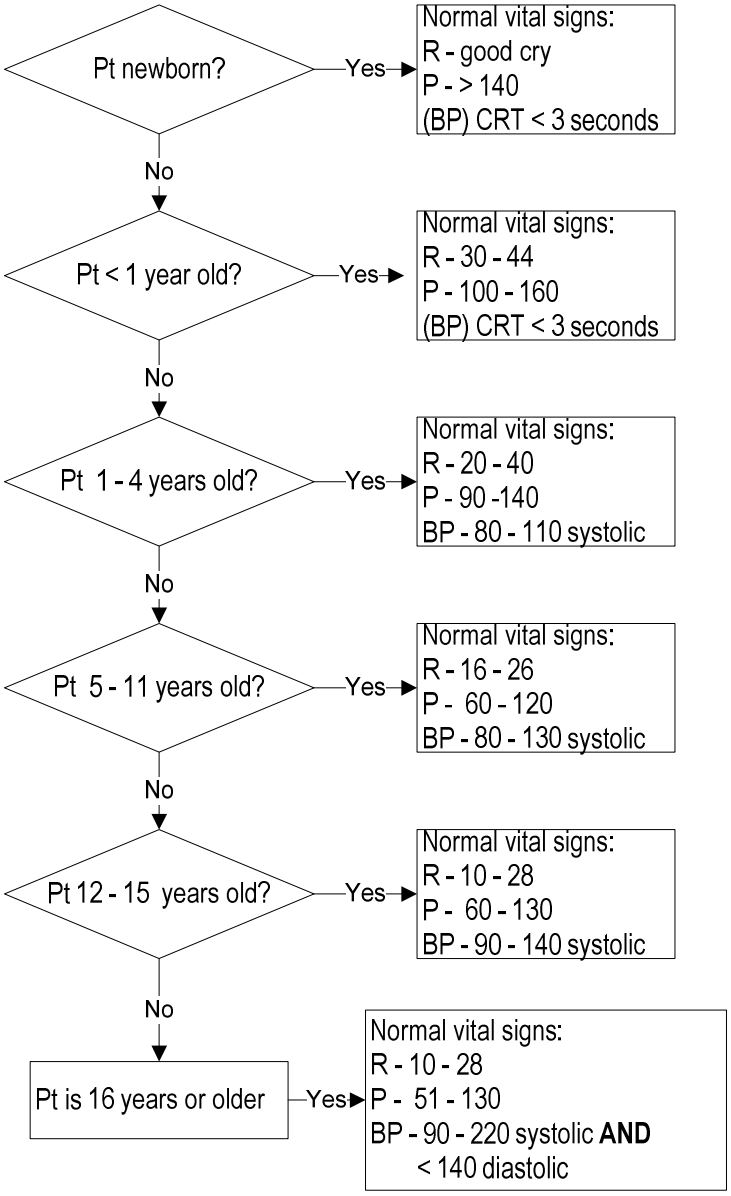
MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	MONITOR, REPORT, DOCUMENT	CONTRAINDICATIONS
Ketamine 500 mg in 5 mL Vial	1 mg/kg IV; dilute 1:1 with NS; max dose 100 mg 3 mg/kg IM; do not dilute; max dose 300 mg	1 mg/kg IV; dilute 1:1 with NS; max dose 100 mg 3 mg/kg IM; do not dilute; max dose 300 mg	Heart rate and rhythm Blood pressure Level of consciousness / hallucinations Excessive salivation	Hydrocephalus Allergy
Lidocaine 100 mg in 5 mL Prefilled	1 - 1.5 mg/kg IV/IO bolus/ET Maintenance: 200 mg in 100 mL D5W run at 2 to 4 mg/min Max dose 3 mg/kg IV bolus	1mg/kg IV/IO bolus/ET Max dose 100 mg	ECG changes	Heart block Junctional arrhythmia Brady arrhythmia
Midazolam (Versed) 5 mg in 5 mL vial	1 - 4 mg IV/IO bolus, IN, rectally; Max dose 4 mg 10 mg IM; Max dose 10 mg	0.1mg/kg IV/IO bolus, IN, rectally; Max dose 2 mg 0.25 mg/kg IM; Max 5 mg	Changes in respiratory rate and effort Changes in level of consciousness and seizure activity	Hypotension Presence of a self-administered CNS depressant
Naloxone (Narcan) 2 mg in 2 mL Prefilled	0.5 mg IV/IO bolus, ET, IM, IN	0.1 mg/kg IV/IO bolus, ET, IM, IN Max dose 2 mg	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-like medication (phosphodiesterase inhibitor) within last 48 hours
Normal Saline 1000 mL, 250mL bags, 2mL carpuject	As needed for volume replacement or to administer medications	20 mL/kg fluid bolus	Label date and time set up assembled Document mL of fluid infused Blood pressure Monitor for infiltration Attempt to keep warm in extreme cold	Discard after 24 hours or if no longer sterile
Ondansetron (Zofran) 4 mg oral dissolving tablets 2 mg/mL in 2 mL vial	Over 30 kg: 8 mg oral dissolving tablets 0.1 mg/kg IV/IO – max 4 mg	15 – 30 kg: 4 mg oral dissolving tablet 0.1 mg/kg IV/IO – max 4 mg	Headache Dizziness Dysarthria	Prolonged QT complex: Male: greater than 450 ms Female: greater than 470 ms
Sodium Bicarbonate 50 mEq in 50 mL Prefilled	0.5 - 1 mEq/kg IV/IO bolus	1 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	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: M. Riccardo Collella, DO, MPH, FACEP
Reviewed/revised: 2-23-13	**NEWBORN CARE & ASSESSMENT**	Page 1 of 1
Revision: 5		



NOTES:

- Compression to ventilation ratio – 3:1
- Consider hypothermia and pneumothorax as a cause and treat.

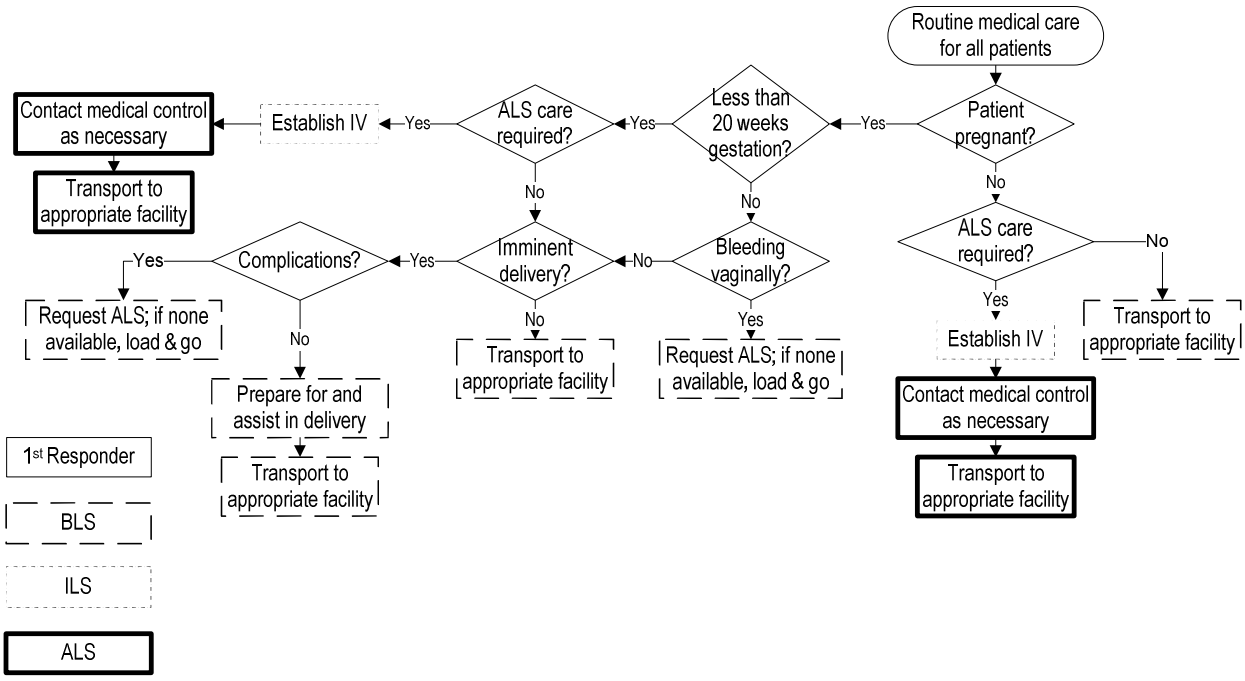


NOTES:

- 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%

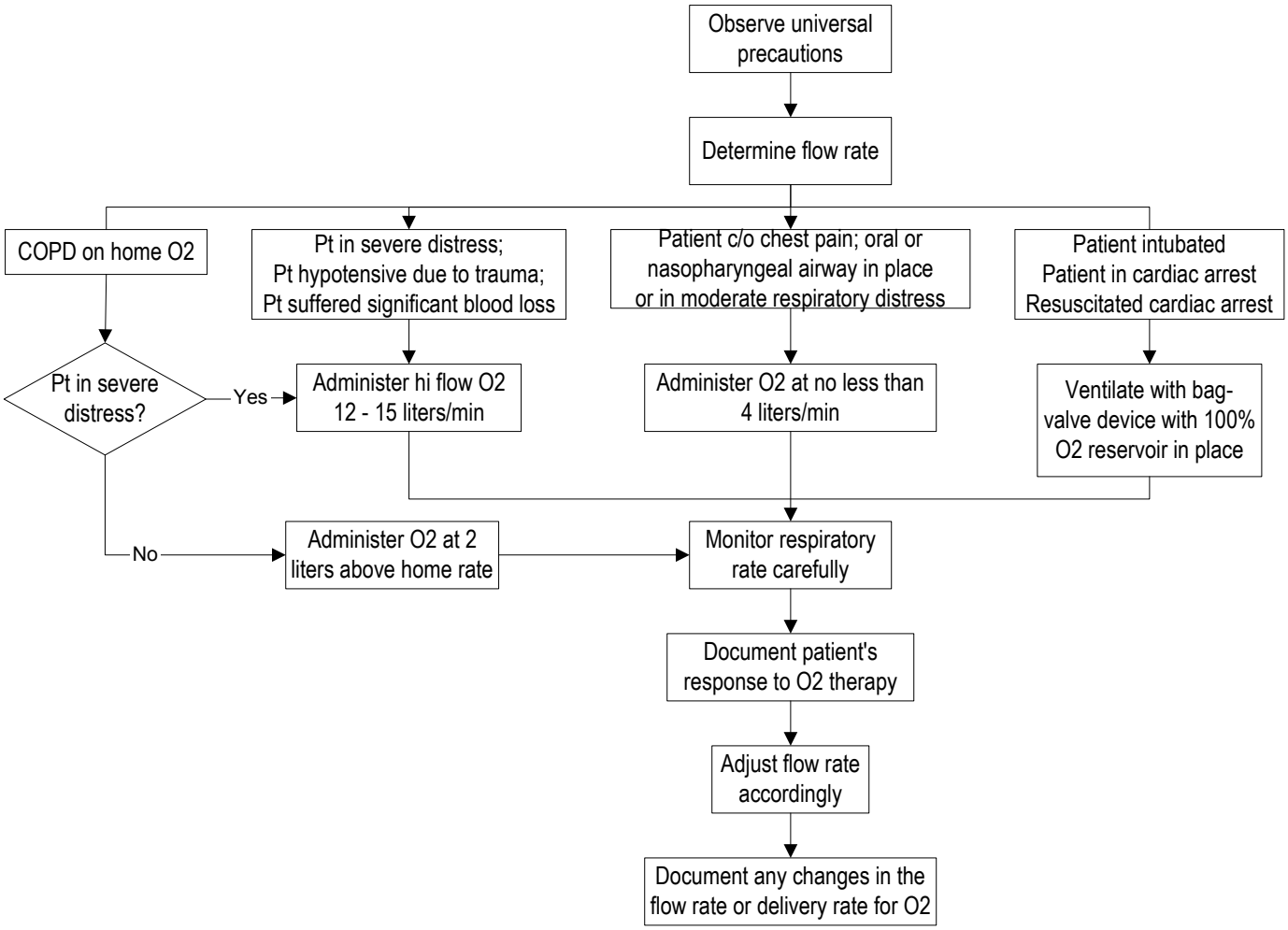
Initiated: 9/92	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		
Revision: 6	**OB/GYN COMPLAINT**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Pregnancy Due date Problems during pregnancy Prenatal care Previous obstetrical history	Vaginal bleeding, discharge Abdominal pain or cramping Contractions Ruptured membranes Crowning Hypertension with or without seizures	Vaginal bleed Placenta previa Abruptio placenta Spontaneous abortion Ectopic pregnancy Labor Eclampsia



NOTES:

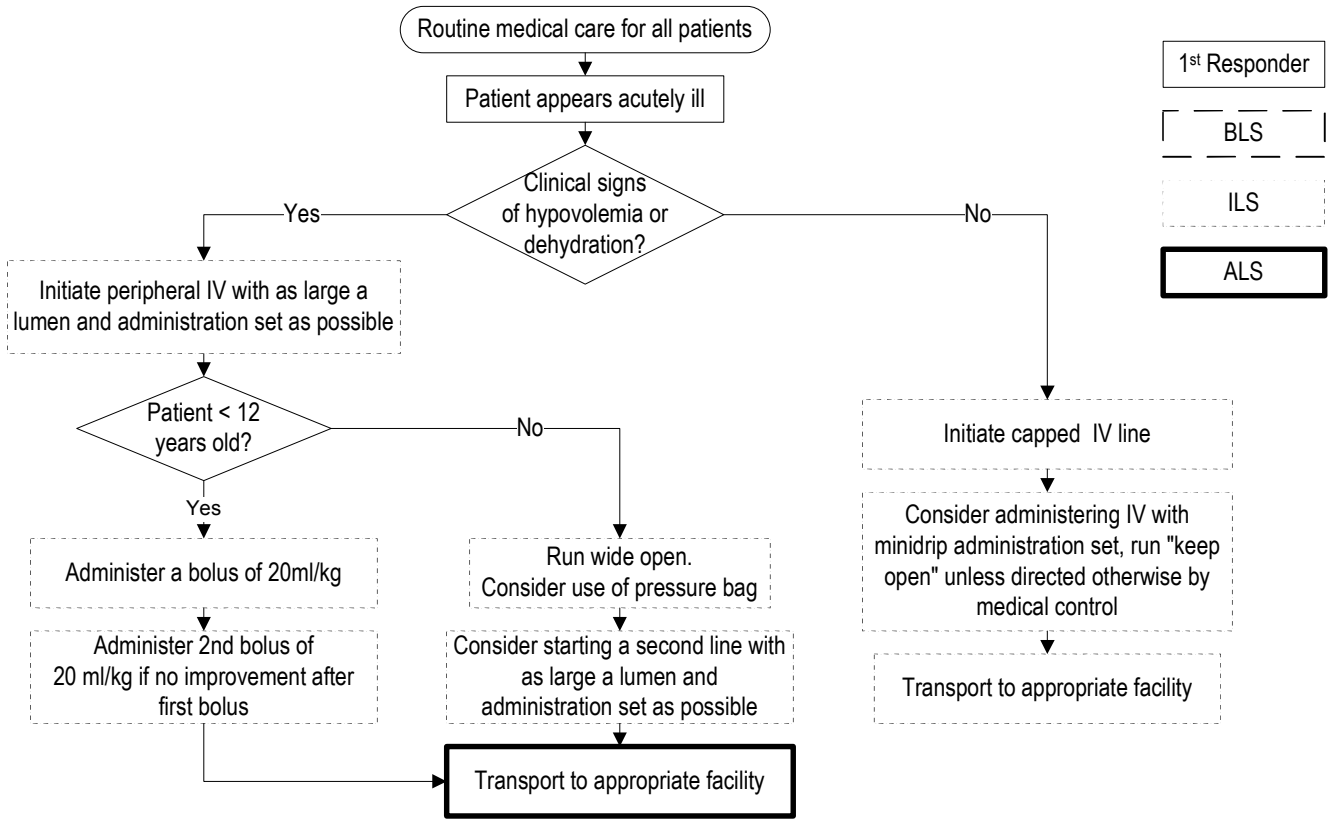
- Pregnant patients experiencing any of the following complications must be transported by ALS:
  - Excessive bleeding;
  - Amniotic fluid contaminated by fecal material;
  - Multiple births, premature imminent delivery;
  - Abnormal fetal presentation (breech);
  - Prolapsed umbilical cord.
- If the response time for an ALS unit *already requested* for a complication of pregnancy is longer than the transport time, the BLS unit may opt to load and go to the closest appropriate facility.
- Unstable newborns with a pulse less than 140 or flaccid newborns or with a poor cry are to be transported to the closest neonatal intensive care unit by an ALS unit.
- Patients at term should be transported on their left side, taking the pressure of the baby off the aorta and vena cava, improving circulation.
- Whenever possible, mother and newborn should be transported together to the same hospital, preferably where prenatal care was obtained.
- A patient at less than 24 weeks gestation will most likely be evaluated in the ED, not sent up to L&D. If the hospital where she received prenatal care is closed and the patient is at less than 24 weeks gestation, transport to an open ED.



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: 12/10/82	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 2/23/13	**PERIPHERAL IV LINES**	Page 1 of 1
Revision: 17		

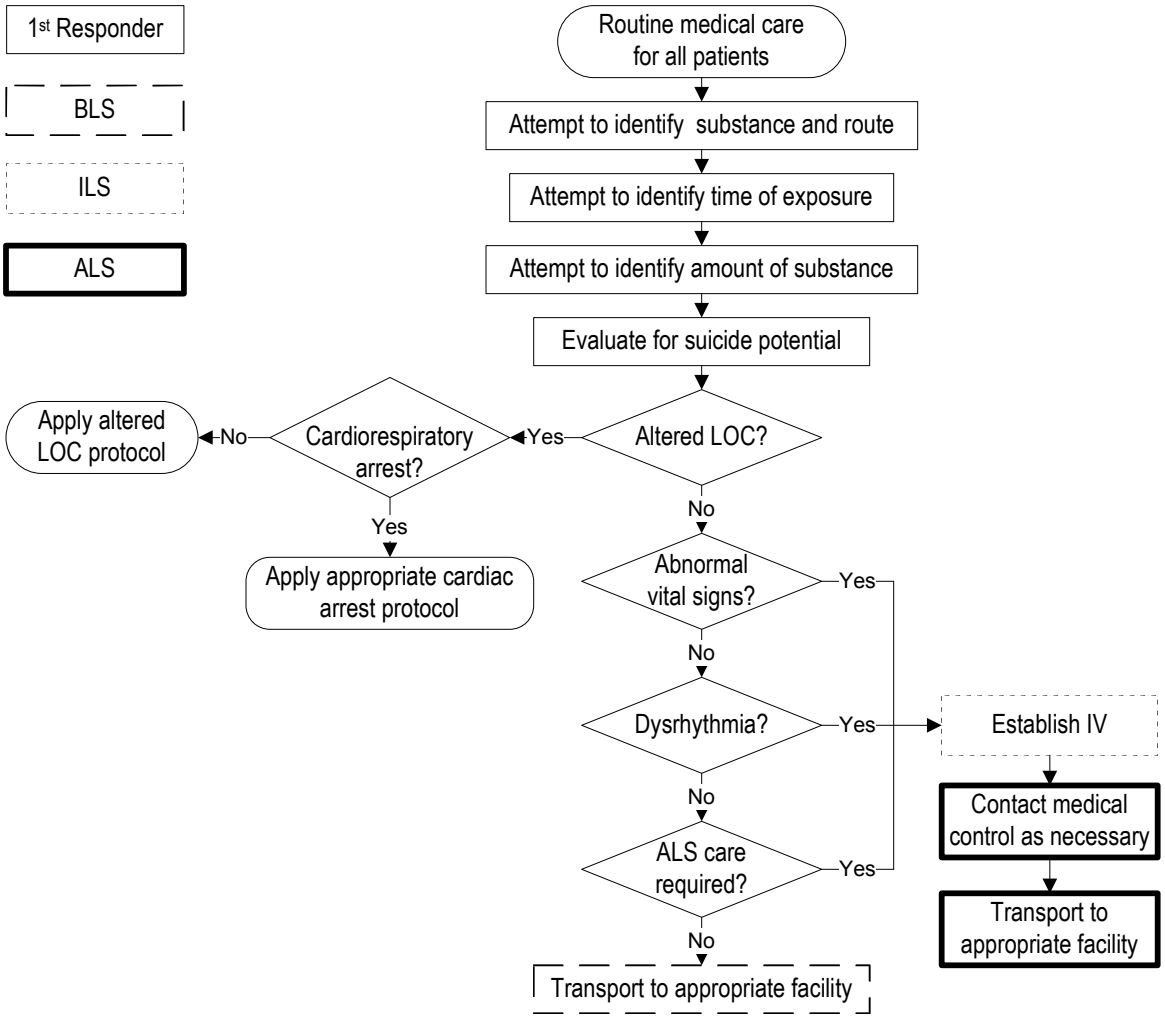


Notes:

- Providers may establish an intravenous infusion in patients who appear acutely ill, either for safety purposes during transport or prior to contact with medical control.
- The only acceptable IV initiation sites are the upper extremity, lower leg and external jugular. NO femoral or central lines are to be initiated by EMS personnel.
- The use of chronic indwelling IV catheter lines with external ports (i.e. Hickman, Arrow) may be used prior to contacting medical control in immediate life threatening situations when another site cannot be obtained.
- A Mediport may be used if access to the port is already established.
- Renal dialysis shunts may only be used if the patient is in cardiopulmonary arrest and no other IV site is available.
- For non-life threatening situations, use of an indwelling IV catheter requires permission from medical control.
- When accessing any indwelling IV line or shunt, consider enlisting the expertise of medical personnel, if present.
- If the patient has a fistula, shunt, etc., avoid using that arm altogether for IV access, except in life threatening situations
- An intraosseous line may be established in a patient with sign/symptoms of shock ***AND*** altered level of consciousness in whom an intravenous line cannot be initiated.
- The preferred order for administration of parenteral medications is: peripheral IV, IO, chronic indwelling catheter with external port, ET.

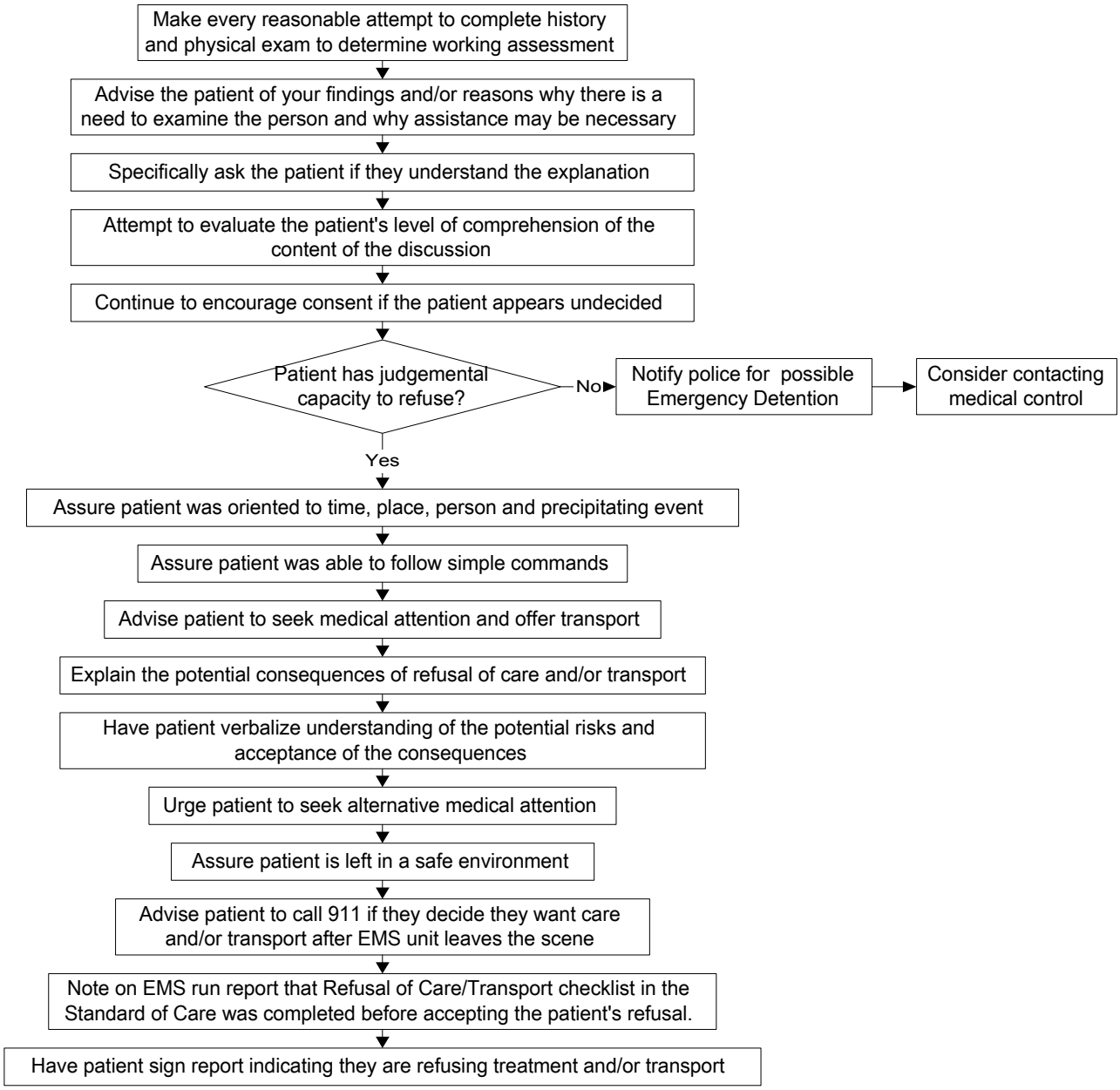
Initiated: 9/92	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		
Revision: 3	**POISON/OVERDOSE**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Ingestion or suspected ingestion of a potentially toxic substance History of drug/substance abuse Evidence of drug paraphernalia at scene Empty pill bottles at scene History of suicide attempts	Altered level of consciousness Hypotension/hypertension Behavioral changes Abnormal vital signs Dysrhythmia Seizure Chest pain	Overdose Toxic ingestion



NOTES:

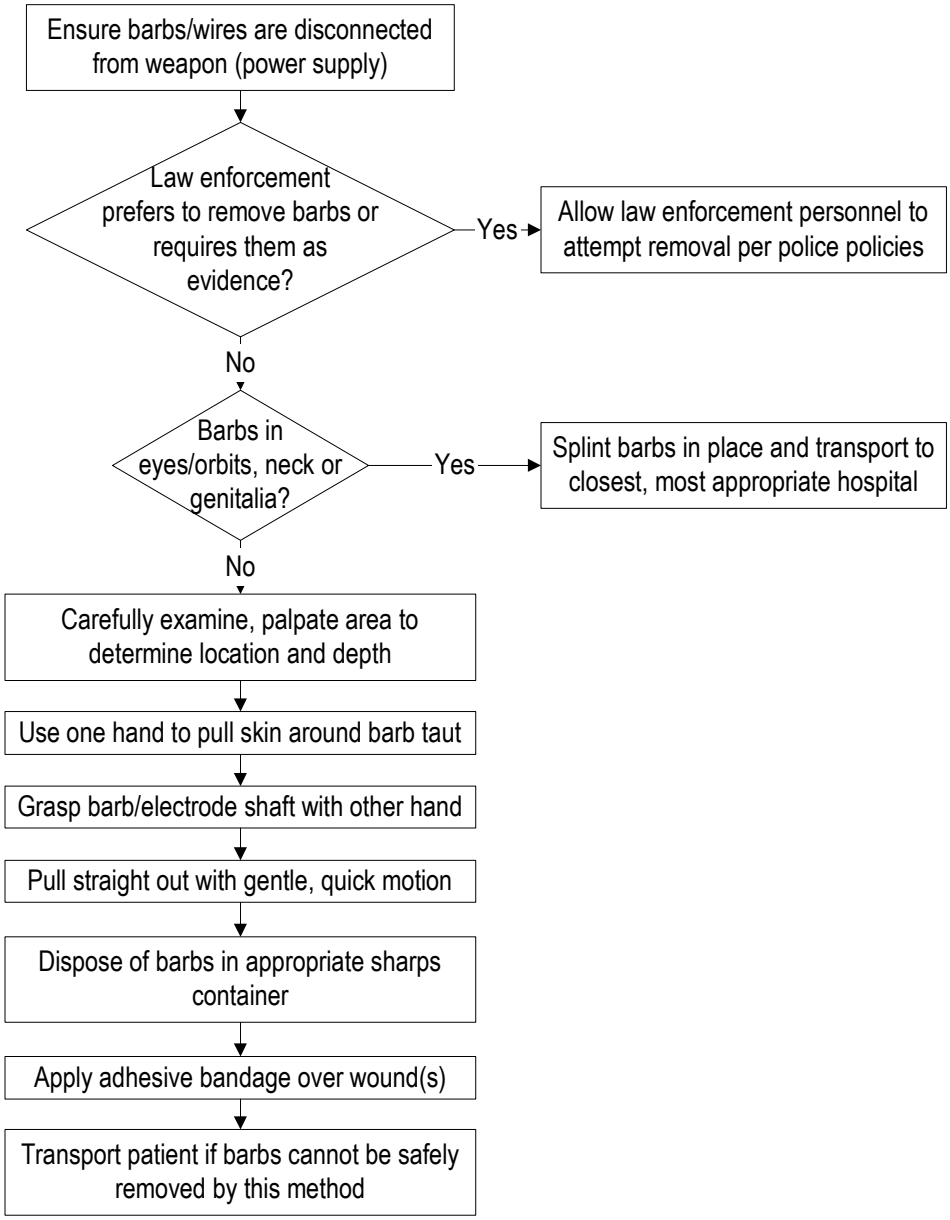
- Patients with a history of cocaine use within the past 24 hours, complaining of chest pain are to be treated as cardiac patients.
- Patients who ingested tricyclic antidepressants, regardless of the number and present signs and symptoms, are to be transported by ALS unit. (These patients may have a rapid progression from alert mental status to death.)
- Pill bottles with the remaining contents should be brought to the ED with the patient whenever possible.



NOTES:

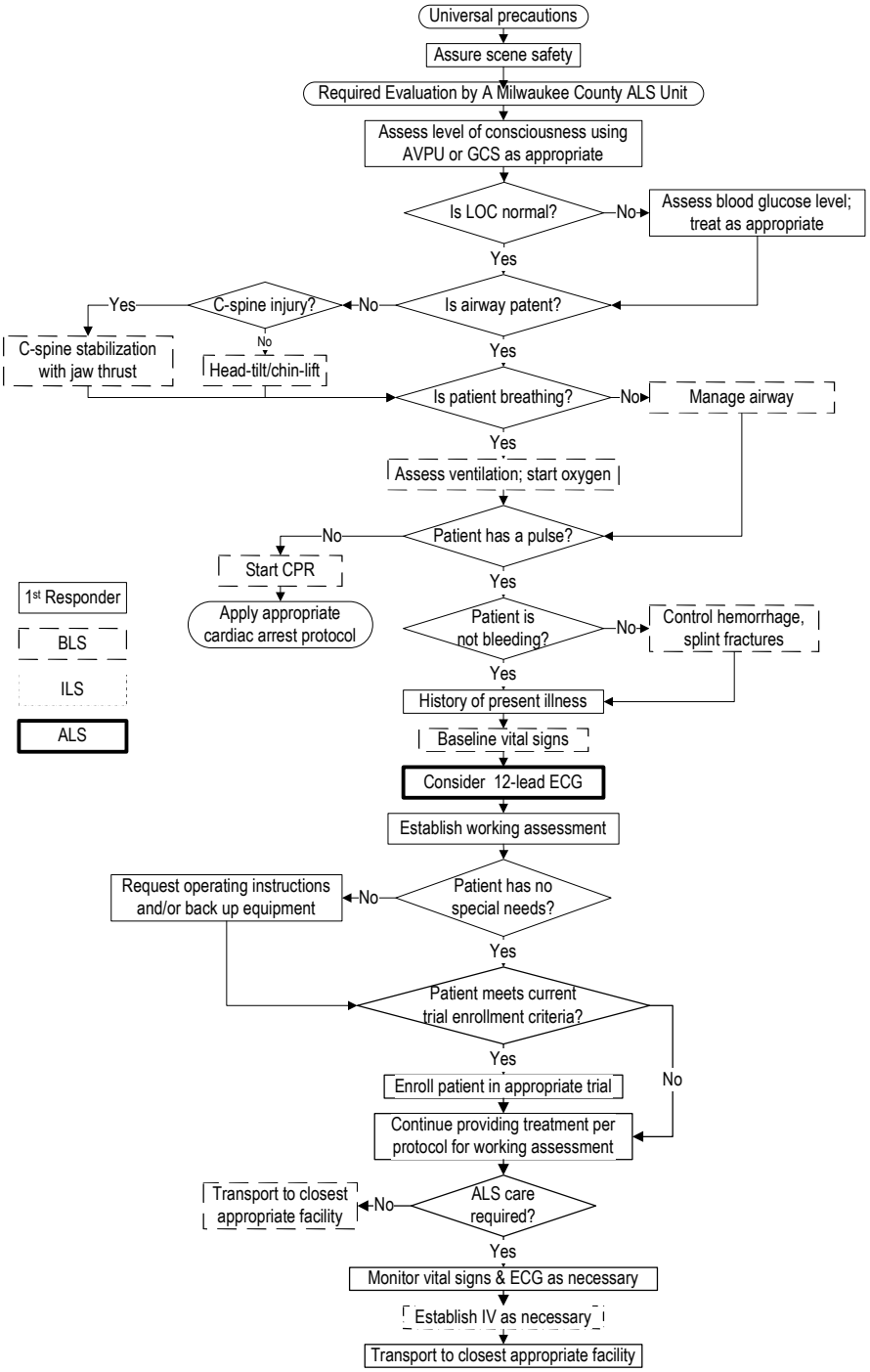
- If the patient is a non-emancipated minor and no symptoms that a prudent layperson, possessing an average knowledge of health and medicine, could reasonably expect to result in serious impairment to the patient's health exist:
  - A parent, guardian or individual responsible for the well being of a 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	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**REMOVAL OF CONDUCTED ENERGY DEVICE BARBS**	
Revision: 1		Page 1 of 1



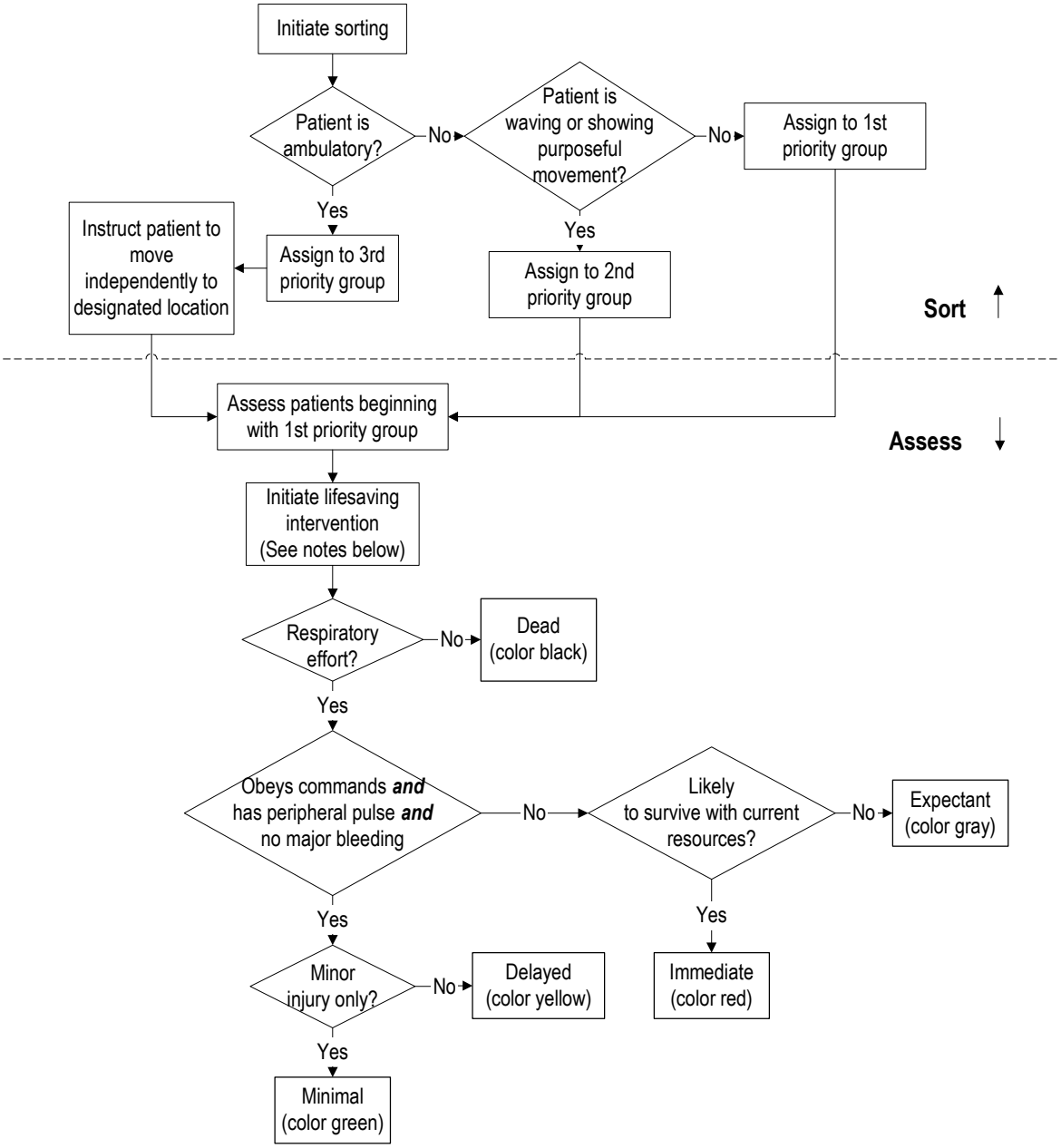
Notes:

- 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.



Notes:

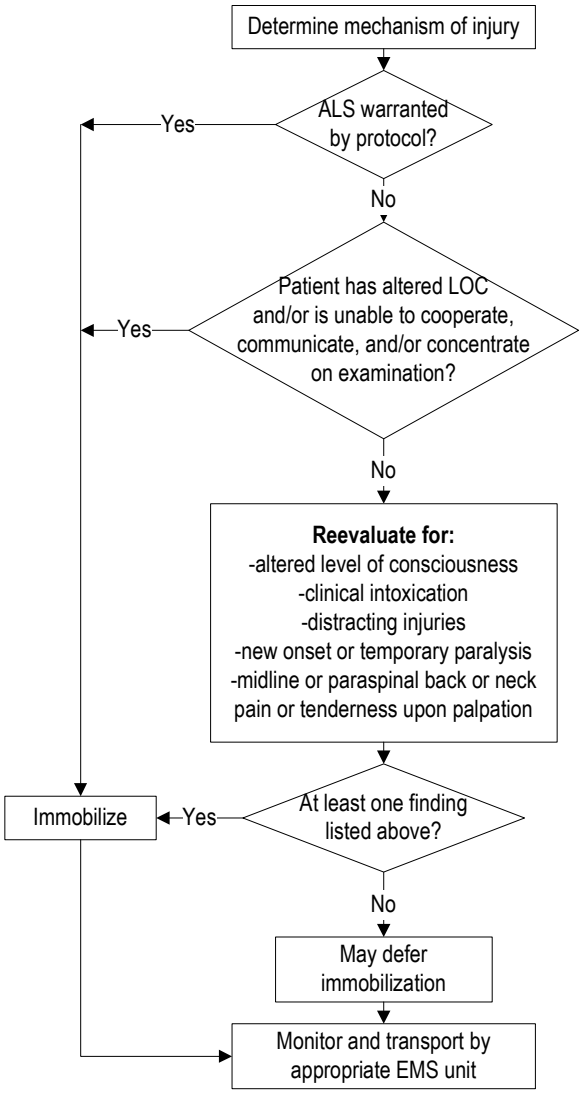
- A patient care report must be completed for each patient evaluated. A minimum of two complete sets of vital signs must be documented.
- The patient care report must be completed and left with/ faxed to the hospital prior to the MED unit going back into service.
- Refer to Response, Treatment and Transport and Transport Destination Policies for required level of transport and destination hospitals providing specialized care.
- The Primary Working Assessment, case number, and transport destination must be reported to EMS Communications for all patients receiving an ALS assessment.



NOTES:

- S.A.L.T. – Sort, Assess, Lifesaving Interventions, Treatment/Transport
- Patients should be sorted into priority groups , then receive individual assessment, beginning with the 1st priority group
- Lifesaving interventions include
  - Major hemorrhage control
  - Open airway (consider 2 rescue breaths for children)
  - Chest decompression
  - Autoinjector antidotes (MARK I Kit or DuoDote), if appropriate
- Reassess patients as frequently as possible, as patient conditions may change

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: 7/1/14	**MILWAUKEE COUNTY EMS**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised:	**PRACTICE GUIDELINE**	
Revision:	**SPINAL MOVEMENT PRECAUTIONS**	Page 1 of 1

Policy: These guidelines are only to be implemented by providers who have completed a Milwaukee County EMS Education Center course or fire department approved equivalent course in spinal movement precautions. All other providers should refer to Spinal Immobilization (page 1-40).

Definitions:

Spinal Movement Precautions (SMP): An effort to minimize unnecessary movement of the spine through a keen assessment, attention to maintaining a neutral, anatomic position of the spine and the use of adjuncts such as cervical collar, well-padded long backboard, scoop stretcher, or a flat ambulance stretcher (which essentially is a padded backboard); the goal of SMP is to minimize the risk of **spinal cord injury (SCI)** from an unstable fracture and reduce the need for and harm of using a backboard when possible.

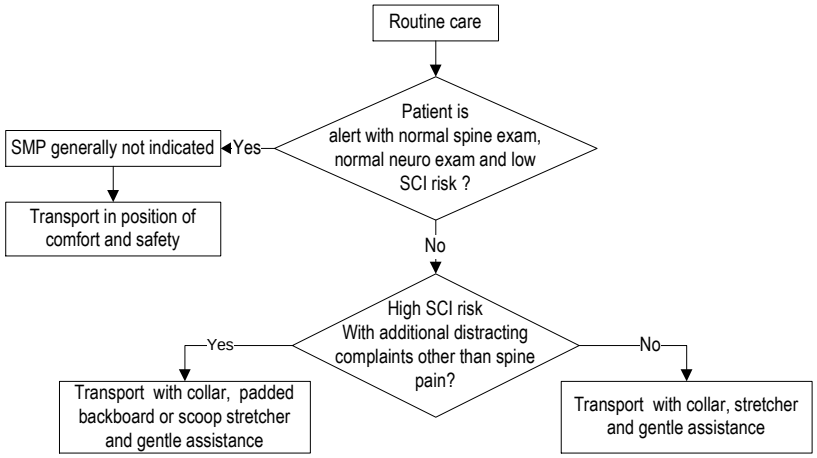
Alert patient: GCS 15, cooperative, clearly communicates, not distracted by pain, injury or circumstance and can focus on your instructions and exam; not intoxicated.

Normal spine exam: No midline bone pain or anatomic deformity ("step-off") and can subsequently passively rotate head 45 degrees to the left and right. An abnormal exam implies pain in the midline of the spine, palpable anatomic deformity of the spine, or an inability to passively rotate head 45 degrees to the left and right.

Normal Neurologic exam: Symmetrical hand squeeze, wrist extension, dorsiflexion, plantar flexion, gross sensation, NO numbness/weakness or priapism.

Low SCI Risk (Mechanism or Patient): EMS judgment of very low speed impact (e.g. minor MVC or ground level fall). Alert patients age 3 to 65 with no neurologic findings or no spine pain based on EMS judgment; ambulatory patients at scene; blunt trauma patients not meeting Level I or II trauma center evaluation criteria.

High SCI Risk (Mechanism or Patient): Blunt trauma meeting trauma transfer criteria for a Level I or II trauma center; penetrating trauma ONLY if an abnormal spine or neurologic exam AND transport not delayed by applying SMP (penetrating trauma to neck or torso alone does not make the patient high risk); age less than 3 or greater than 65 may be considered high risk when considering other major trauma factors.

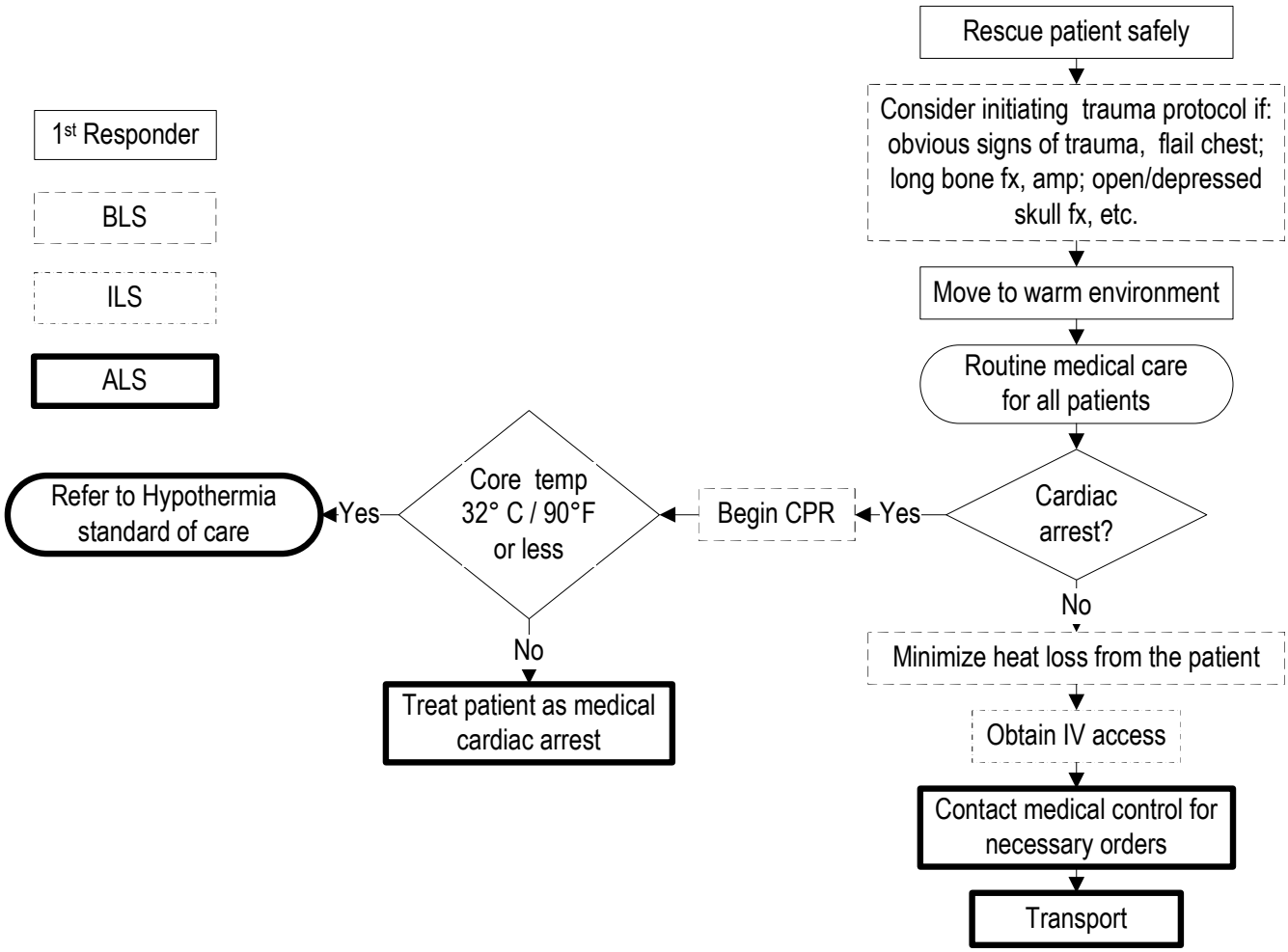


NOTES:

- It is mandatory to document the initial neurologic exam and upon each patient transfer (e.g. on to backboard/scoop/stretcher, prior to movement onto hospital bed and once transfer to hospital bed occurs). A simple one-line statement such as "patient's neurologic exam remained unchanged throughout all transfers" would suffice.
- Ideally, the backboard or scoop stretcher would be used if multiple extrication steps are needed in order to move a patient to a stretcher. Ambulatory patients or those patients with minor spine pain seated in a vehicle or at the scene may be gently assisted directly to an ambulance stretcher brought directly to them to minimize movement. EMS will make every effort to minimize movement to the spine in this process. A "short board" or K.E.D may be used as an extrication tool. It does not provide benefit and should not be used when implementing spinal movement precautions.
- Pediatrics age 3 to 8 that otherwise fit the low risk criteria may not require SMP based on the EMS provider's judgment.
- Hospital inter-facility transfers should not require a backboard although they will often require SMP; careful coordinated movement from hospital to ambulance stretcher using a scoop stretcher or slide board should suffice; ambulance stretcher straps should be secured.

Initiated: 9/92	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/15/12		
Revision: 6	**SUBMERSION**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Patient found submerged in water	Altered level of consciousness Vomiting/aspiration Possible hypothermia Possible cardiac arrest	Submersion

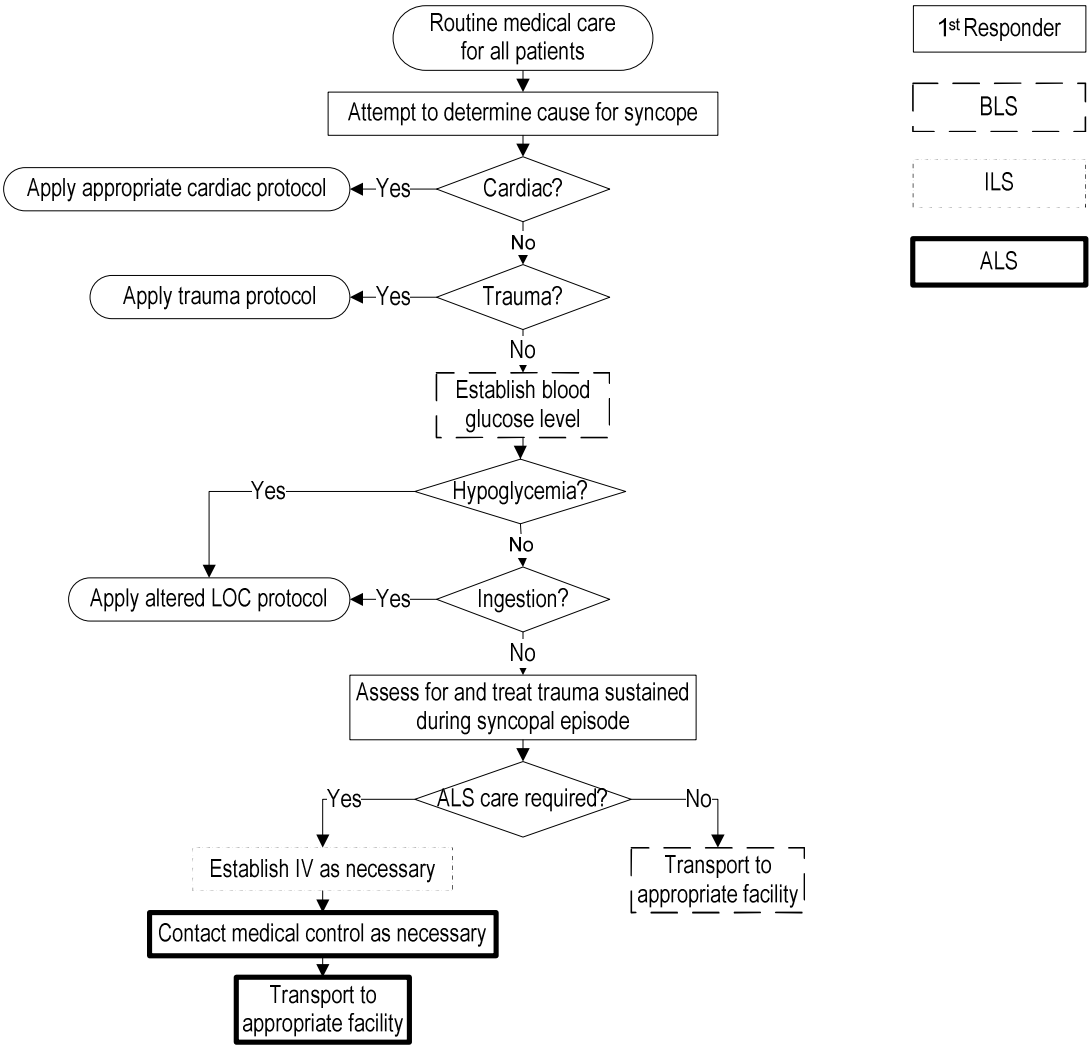


NOTES:

- Estimate the time of submersion.
- Note the type of water involved, i.e. bathtub, pool, lake, polluted, etc.
- Estimate the temperature of the water.

Initiated: 9/92	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		
Revision: 6	**SYNCOPE**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Brief loss of consciousness History of cardiac disease, stroke, seizures, diabetes Possible occult blood loss (ulcers, ectopic pregnancy) Fluid loss - diarrhea, vomiting Fever Vagal stimulation Trauma	Loss of consciousness with recovery Dizziness, lightheadedness Palpitations Abnormal pulse rate Irregular pulse Hypotension Signs of trauma	Consider underlying cause: Cardiac Hypovolemia Stroke Hypoglycemia Orthostatic hypotension Seizure Vasovagal Ingestion Trauma Aortic aneurysm/dissection

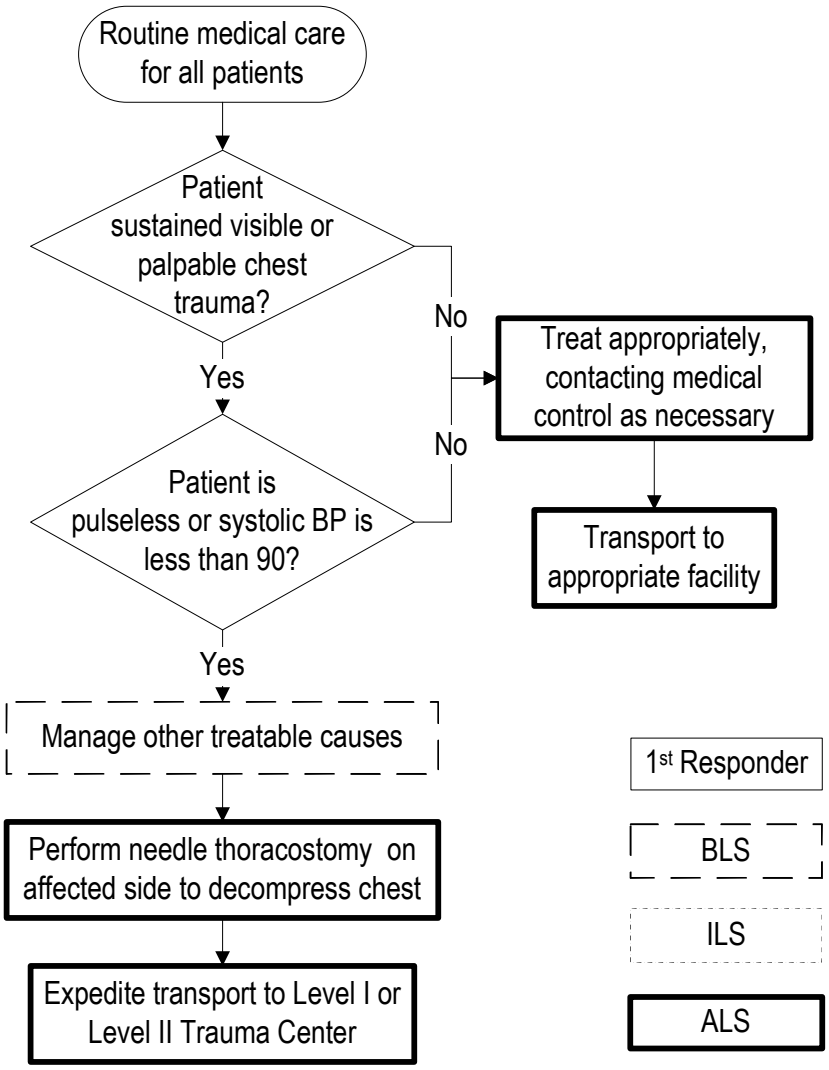


NOTES:

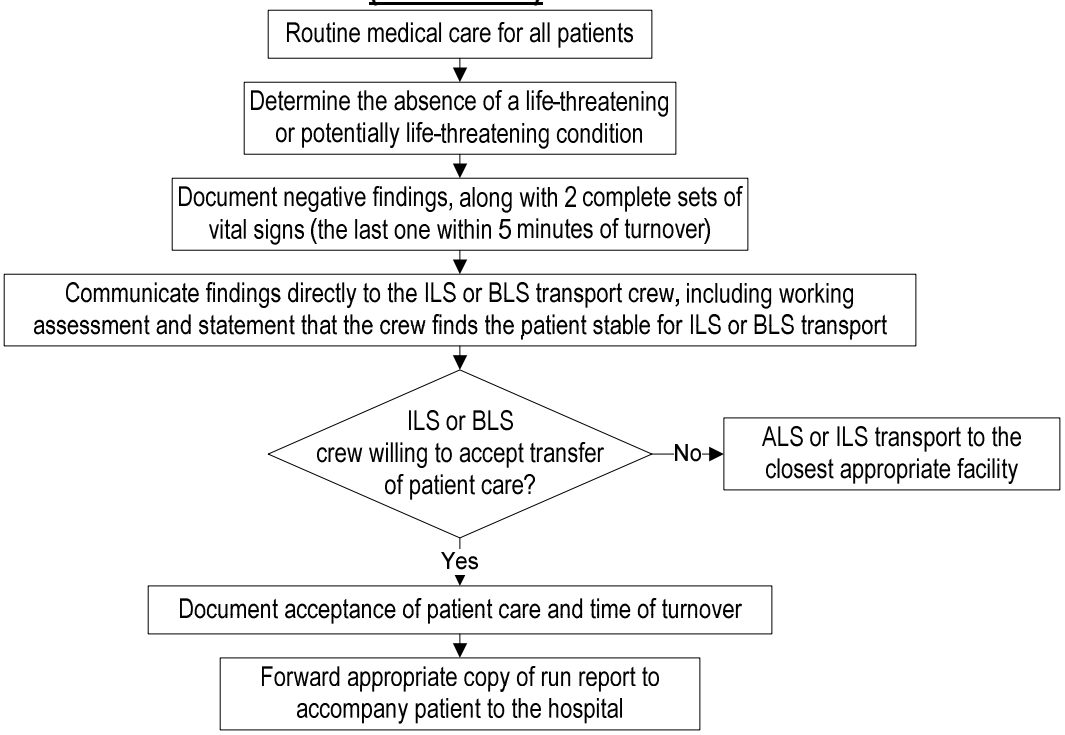
- Assess for signs and symptoms of trauma if associated or questionable fall with syncope.
- Consider underlying cause for syncope and treat accordingly.
- Over 25% of geriatric syncope is due to cardiac dysrhythmia.

Initiated: 10/14/09	**MILWAUKEE COUNTY EMS STANDARD OF CARE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		
Revision: 1	**TENSION PNEUMOTHORAX**	Page 1 of 1

History	Signs/Symptoms	Working Assessment
Patient sustained chest trauma	Visible or palpable chest trauma Severe respiratory distress Decreased or absent breath sounds on one side Hypotension Patient is pulseless Restlessness/agitation Increased resistance to ventilation Jugular vein distention Tracheal deviation away from affected side	Tension pneumothorax



TRANSFER OF CARE (TURNDOWN)



NOTES:

- The decision to turn the patient over for BLS or ILS transport *must be unanimous* among the paramedic or ILS 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. ***BLS providers must request ALS for known blood sugar <70 mg/dl. ILS may treat blood sugar <70mg/dl.***
  - 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 in which EMT-Basic advanced skills were initiated; these patients require ALS transport:
    - Administration of albuterol ***without*** complete relief of symptoms (examples: wheezing, dyspnea)
    - Administration of aspirin
    - Administration of epinephrine ***without*** complete relief of symptoms (examples: wheezing, dyspnea, hypotension)
    - Assistance of self-administration of nitroglycerin
    - Administration of dextrose ***without*** complete relief of symptoms (example: altered level of consciousness after second dose of dextrose)
  - 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: 4/1/14	**MILWAUKEE COUNTY EMS PRACTICE GUIDELINE**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised:	**TRAUMA FIELD TRIAGE GUIDELINES**	Page 1 of 1
Revision:		

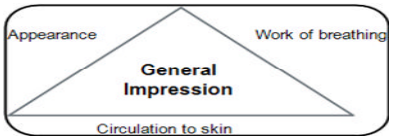
1 Ventilation

Is the patient ventilating or can the patient be ventilated?

- Yes → Measure Vital signs and Level of Consciousness
- No → Transport to the closest appropriate hospital or ALS / Air Medical intercept for RSI / definitive airway management

2 Physiologic

Glasgow Coma Scale 13 or less
Systolic blood pressure less than 90 mm Hg
Respiratory rate less than 10 or more than 29 for adults
Less than 20 for infants less than 1 year
PEDS: 1 or more abnormalities in Pediatric Assessment Triangle



- Yes → Transport to a trauma center. Steps 2-3 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of trauma care within the defined trauma region.
PEDS: Consider transport to a pediatric trauma center within region
- No → Assess anatomy of injury

3 Anatomic

All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knees
Chest wall instability or deformity (e.g. flail chest)
Two or more suspected fractures involving the femur or humerus
Crushed, degloved, mangled, or pulseless extremity
Complete or partial amputation proximal to wrist or ankle
Pelvic fracture/unstable pelvis
Open or depressed skull fractures
New onset paralysis (paraplegia/quadriplegia)

- Yes → Transport to a trauma center. Steps 2-3 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of trauma care within the defined trauma region.
PEDS: Consider transport to a pediatric trauma center within region
- No → Assess mechanism of injury and evidence of high-energy impact

4 Mechanism

Falls — Adults more than 20 feet (one story is equal to 10 feet)
Children more than 10 feet or 2 – 3 times the height of the child
High-Risk Auto Crash — Intrusion, including roof: more than 12 inches occupant site, more than 18 inches any site
Ejection (partial or complete) from automobile
Death in same passenger compartment
Vehicle telemetry data consistent with high risk of injury
Auto vs. pedestrian/bicyclist thrown, run over, or with significant (more than 20 mph) impact
Motorcycle crash more than 20 mph

- Yes → Transport to a trauma center, which depending upon the defined trauma region, need not be the highest level trauma center
- No → Assess special patient or system considerations

5 Considerations

Age: Risk of injury / death increases for patients 55 and older
Systolic blood pressure below 110 may represent shock for patients 65 and older
Low impact mechanisms (e.g. ground level falls) may result in severe injury for older adults
Consider transporting children to the pediatric trauma center
Burns: Adults burns without other trauma mechanism should be triaged to the burn center; burns with trauma mechanism should be triaged to the trauma center. Pediatric patients with burns should be transported to the pediatric trauma center
Anticoagulants and bleeding disorders: patients with head injury are at high risk for rapid deterioration
Pregnancy over 20 weeks
EMS provider judgement

- Yes → Transport to a hospital capable of timely and thorough evaluation and initial management of potentially serious injuries.
- No → Transport according to protocol

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

- All EMS providers will routinely use appropriate barrier precautions to prevent skin and mucous membrane exposure when anticipating contact with patient blood or other body fluids.
- Non-latex 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.
- Masks and protective eye wear or face shields will be worn to prevent exposure of mucous membranes (mouth, nose and eyes) of the EMS provider during procedures likely to generate droplets of blood or other body fluids.
- Liquid-impervious gowns will be worn during procedures 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 transmitted by airborne or droplet method.

Hand washing:

- A non-water-based antiseptic cleaner is to be used at the emergency scene whenever body secretions or blood soils the EMS provider'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 used for food preparation or clean up.

Disposal of contaminated sharps:

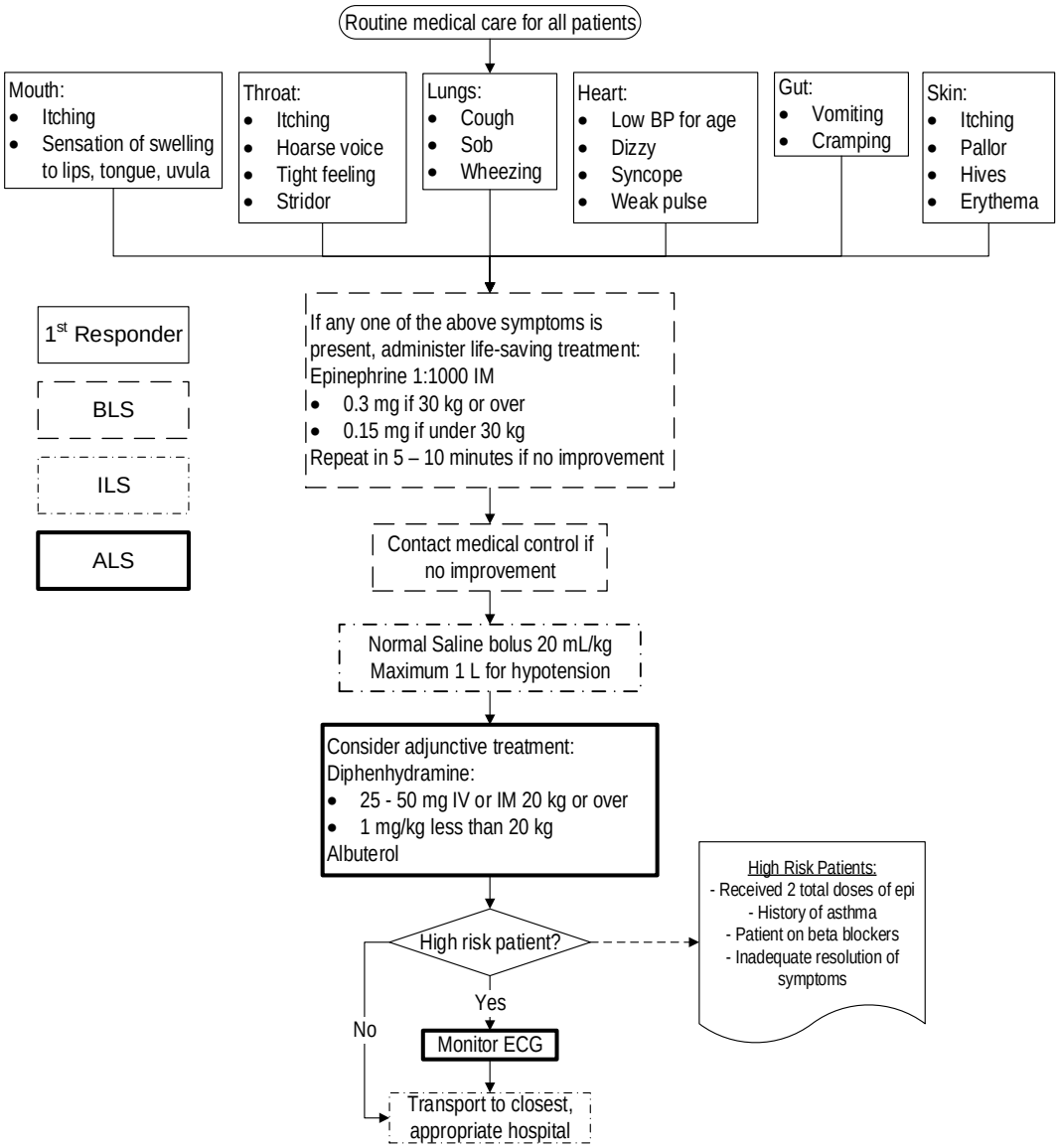
- Every effort is to be made to avoid injuries caused by needles and other sharp instruments contaminated with blood or body fluids. Safety-engineered sharps should be used whenever practical.
- If a contaminated needle receptacle is not readily available, the cap of the contaminated needle is to be 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.
- Appropriately labeled bio-hazard sharps containers 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 bio-hazard sharps container.

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.

MEDICAL PROTOCOLS

Initiated: 5/22/98	MILWAUKEE COUNTY EMS	Approved by: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 3/1/15	MEDICAL PROTOCOL	WI EMS Approval: 6/22/11
Revision: 12	ALLERGIC REACTION	Page 1 of 1

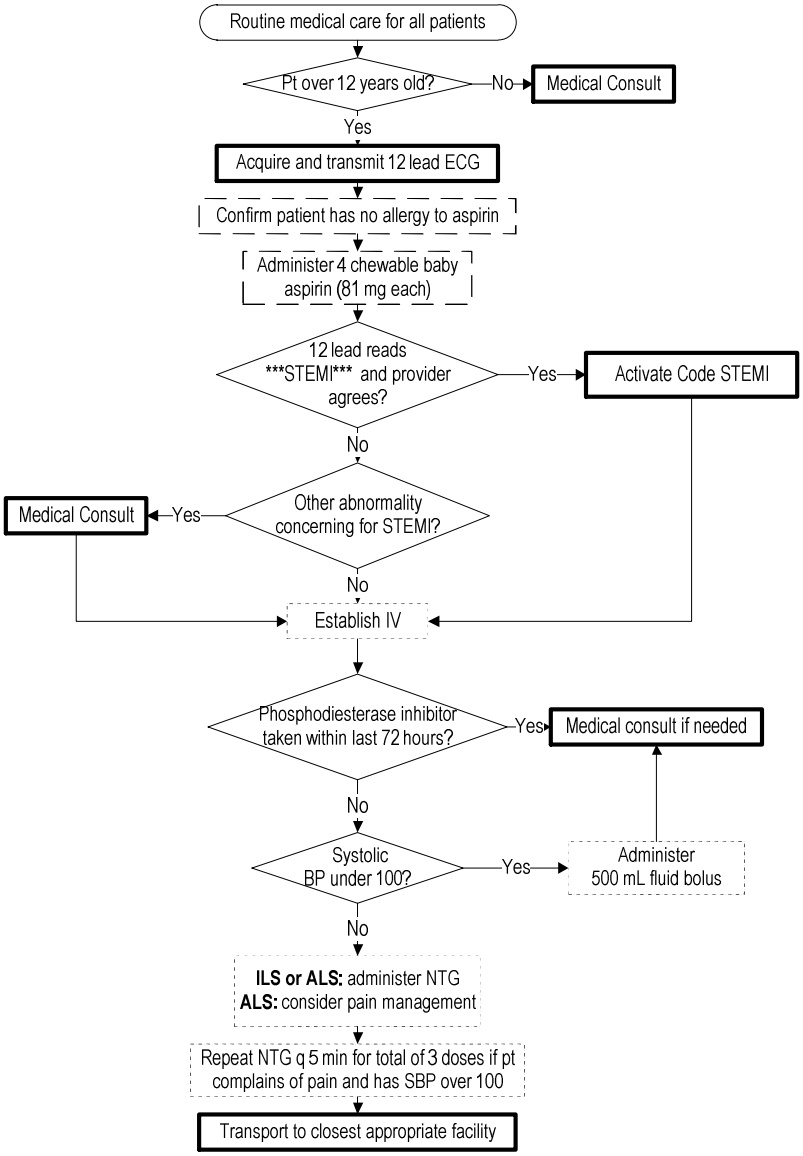
History:	Signs/Symptoms:	Working Assessment:
Known allergy Known exposure to possible allergen (e.g. peanuts) New medication Insect sting/bite High risk patients requiring ECG monitoring: Asthmatics Received 2 doses epinephrine On beta blockers Inadequate resolution of symptoms	Sudden onset of symptoms (minutes to hour) Hives, itching, flushing Anxiety, restlessness Shortness of breath, wheezing, stridor Chest tightness Hypotension/shock Swelling/edema Cough Nausea/Vomiting	Anaphylaxis Asthma Shock



Notes:

- Anaphylactic reactions include a wide spectrum of signs/symptoms that range from minor wheezing to overt shock. Early recognition and treatment, including the use of epinephrine, greatly improves patient outcomes.
- The preferred site for IM injections is the mid-anterolateral thigh.
- There are NO absolute contraindications to epinephrine administration in life-threatening emergencies.
- If using Epi auto injector: Age greater than one but weight less than 30 Kg should receive the “Epi Junior” dose of 0.15 mg.

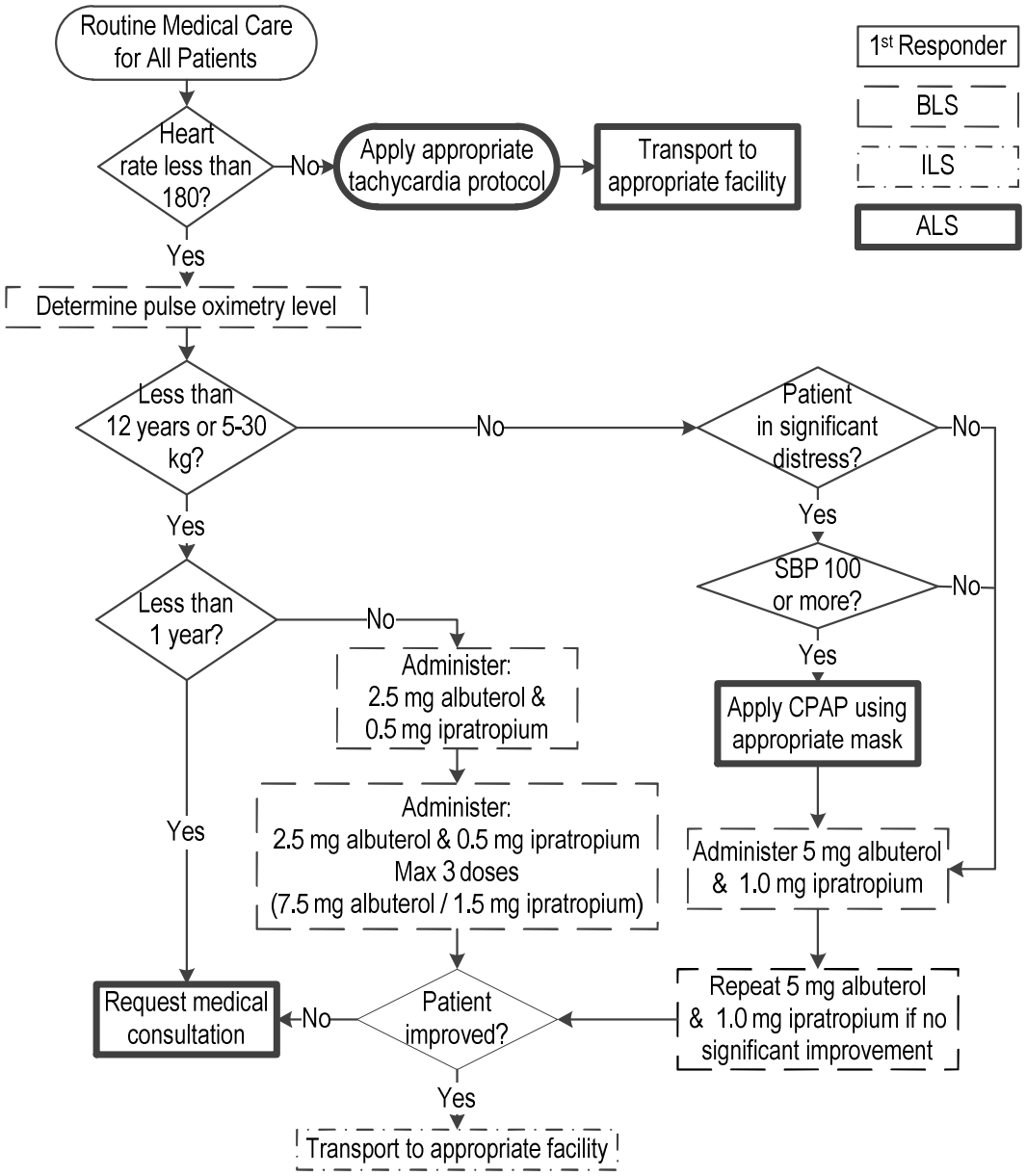
History:	Signs/Symptoms:	Working Assessment:
History of cardiac problems: bypass, cath, stent, CHF Hypertension Diabetes Positive family history Smoker Cocaine use within last 24 hours Available nitroglycerine prescribed for patient	Chest, jaw, neck, arm, upper abdominal and/or back pain Nausea Diaphoresis Shortness of breath Acute fatigue/ Generalized weakness Syncope Palpitations Abnormal rhythm strip: ectopy, BBB, new onset atrial fibrillation	Angina Acute Coronary Syndrome



Notes:

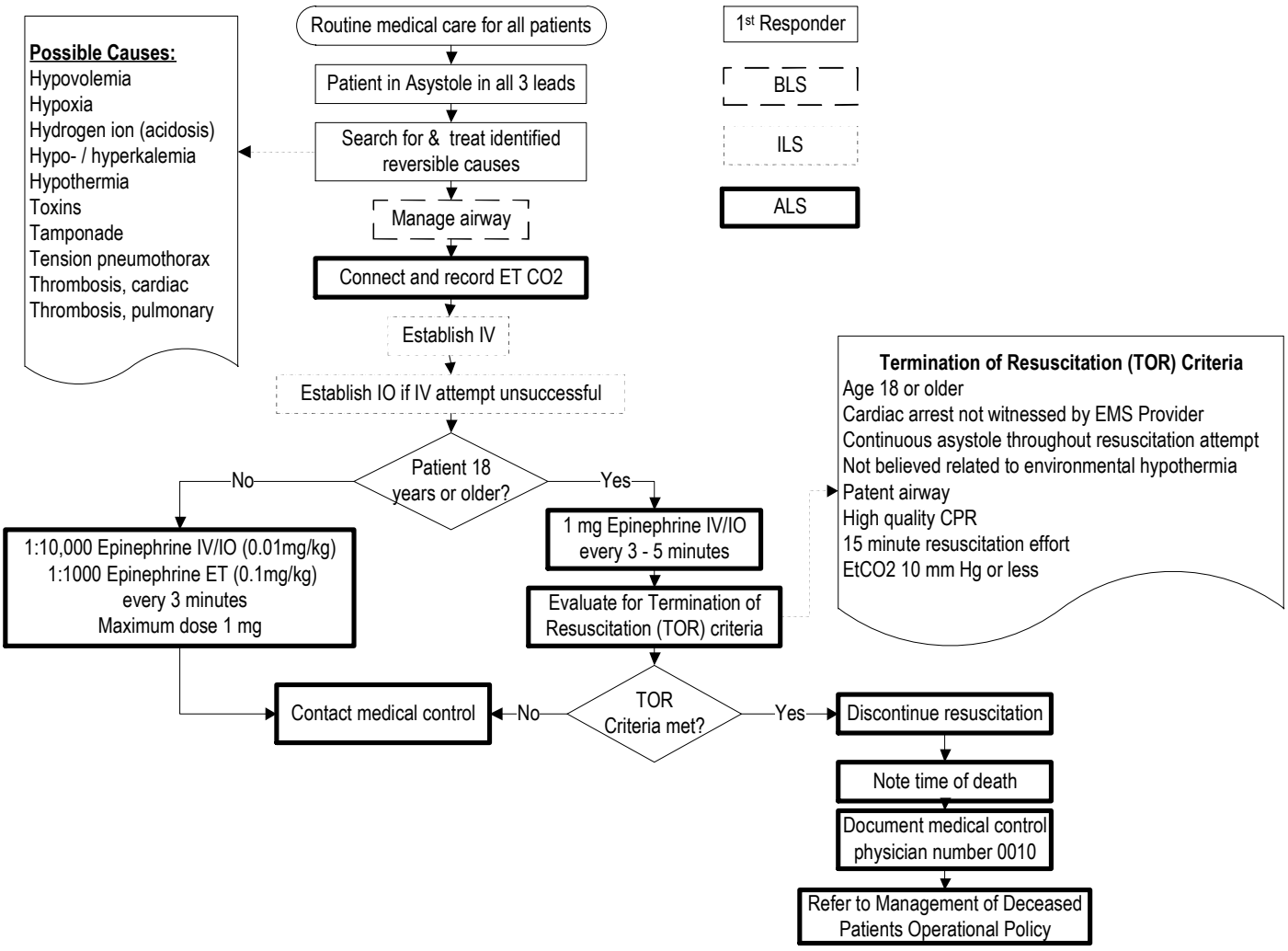
- Phosphodiesterase inhibitors include medications used for pulmonary hypertension (i.e. Flolan, Veletri, Remodulin).
- If inferior or right ventricular infarct, consult medical control prior to administering NTG.
- A pregnant patient with a 12-lead diagnostic of a STEMI should receive a full dose of aspirin (324 mg).
- A 12-lead ECG should be done on all patients with a working assessment of Angina/ACS, even if pain free.
- A 12-lead ECG should be done as soon as possible after treatment is started; goal is within ten minutes.
- If the patient's symptoms have been relieved but return, repeat 12-lead ECG and continue NTG every 5 minutes until the patient is pain free.

History	Signs/Symptoms	Working Assessment
May have a history of asthma Exposure to irritant Recent URI	Chest tightness Dyspnea Coughing or wheezing Accessory muscle use	Asthma
History of COPD	Chronic cough Dyspnea Pursed lip breathing Prolonged exhalation Barrel chest Clubbing of fingers	COPD



Notes:

- The optimal pulse oximetry level for the patient with a history of COPD is 88 – 92%.
- If an asthmatic has no improvement after 2 doses of EMS administered albuterol/ipratropium therapy, consider medical consultation for an ***order*** for intramuscular epinephrine.
- Patient's self-treatment does not limit EMS provider's albuterol/ipratropium dosing.
- CPAP should not preclude standard medication administration.

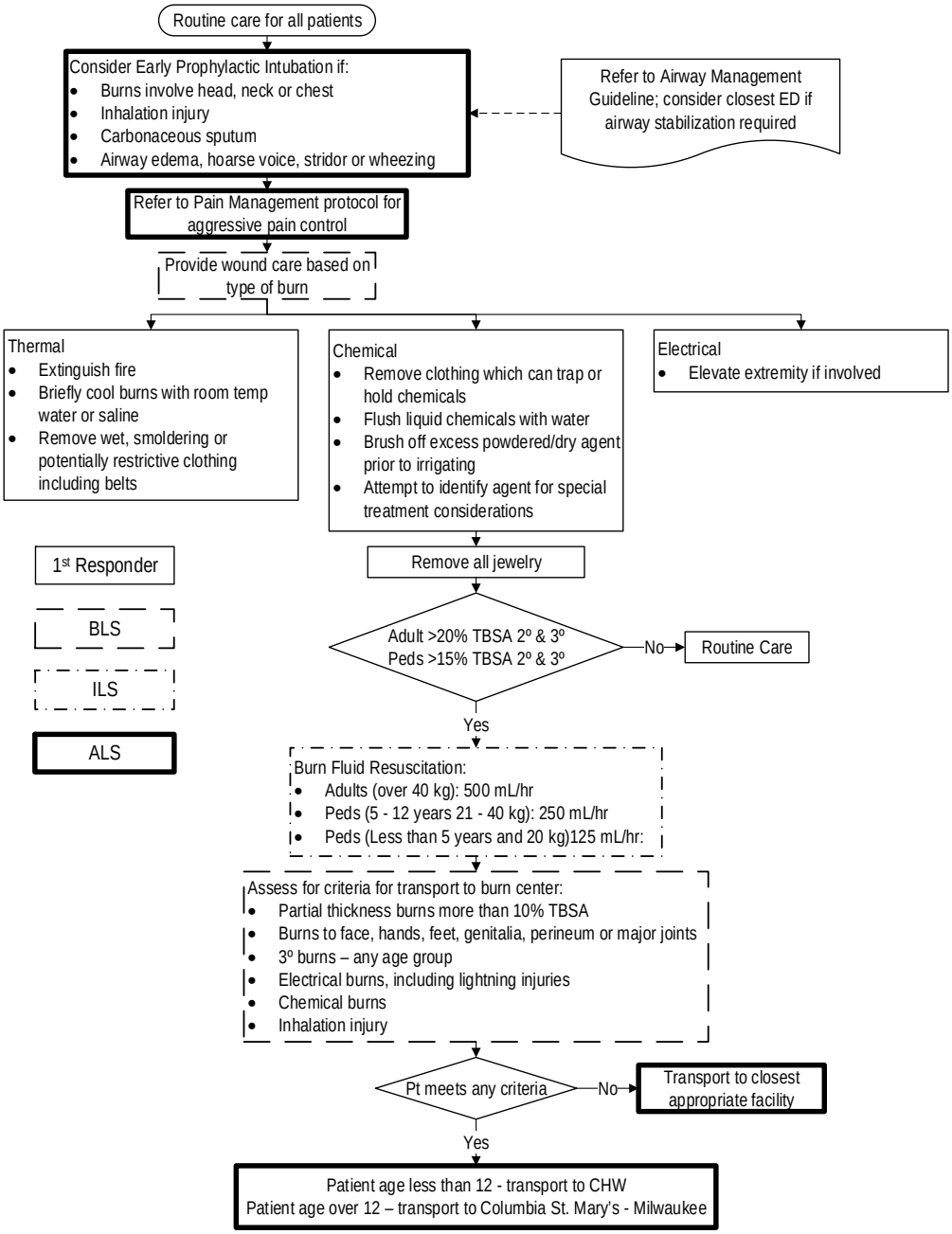


NOTES:

- When unable to establish an IV, epinephrine is to be administered via ETT at 2.0 mg doses.
- For pediatric patients:
  High dose epinephrine is not indicated in pediatric patients with IV/IO access.
  High dose epinephrine is only indicated when administered via ETT.

Initiated: 9/92	MILWAUKEE COUNTY EMS MEDICAL PROTOCOL	Approved: M. Riccardo Colella, DO, MPH, FACEP
Revised: 3/1/15		
Revision: 11	BURNS	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Type of burn: thermal, electrical, chemical, radiation Inhalation injury Confined space Associated trauma Loss of consciousness	Burn, pain, swelling Dizziness/ loss of consciousness Hypotension/shock Airway compromise/distress Singed facial or nasal hair Hoarseness Soot in airway passages	1st degree - red and painful 2nd degree (partial thickness)- blistering 3rd degree (full thickness) - painless and charred or leather-like appearance

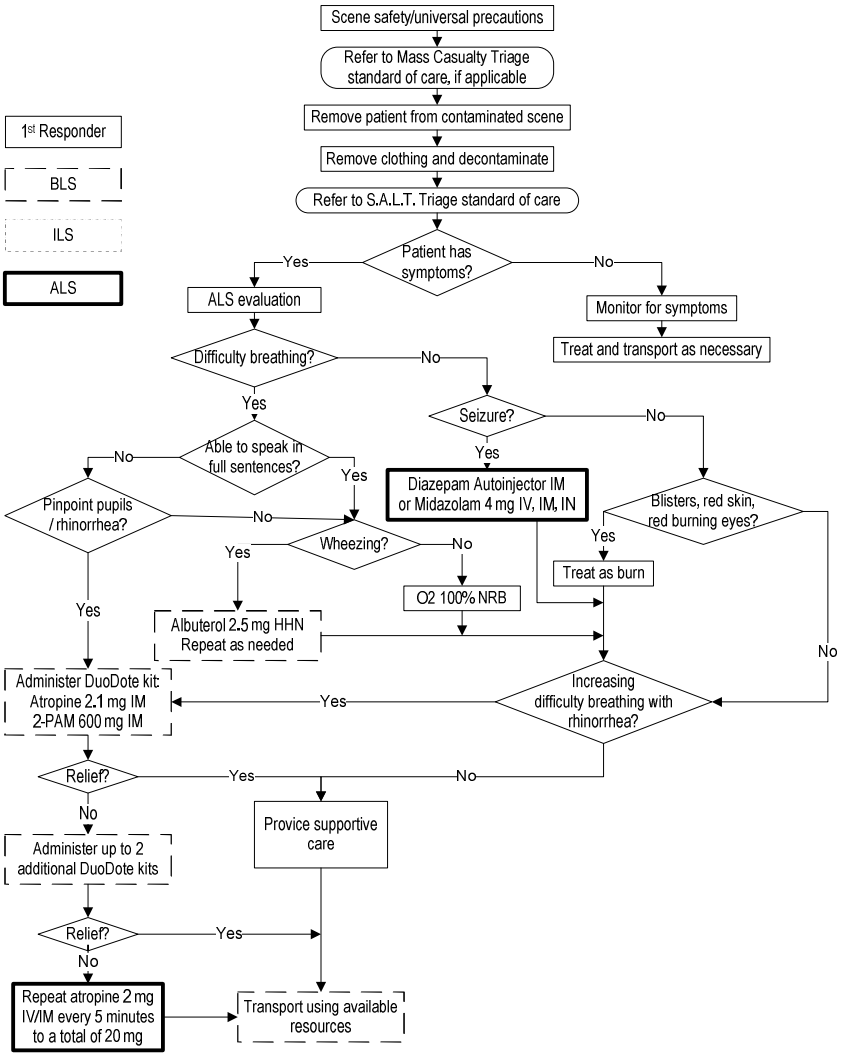


NOTES:

- Burn patients who also sustained major/multiple trauma must be transported to the Trauma Center.
- Patients who suffered electrical injury must have continuous ECG monitoring en route to the hospital.

History	Signs/Symptoms	Working Assessment
Known chemical exposure Multiple patients with similar symptoms (e.g. seizures)	**S**alivation (drooling) **L**acrimation (tearing) **U**rination **D**efecation (diarrhea) **G**eneralized twitching/seizures **E**mesis (vomiting) **M**iosis (pinpoint pupils)	Exposure to nerve agents or organophosphates (e.g. insecticides)

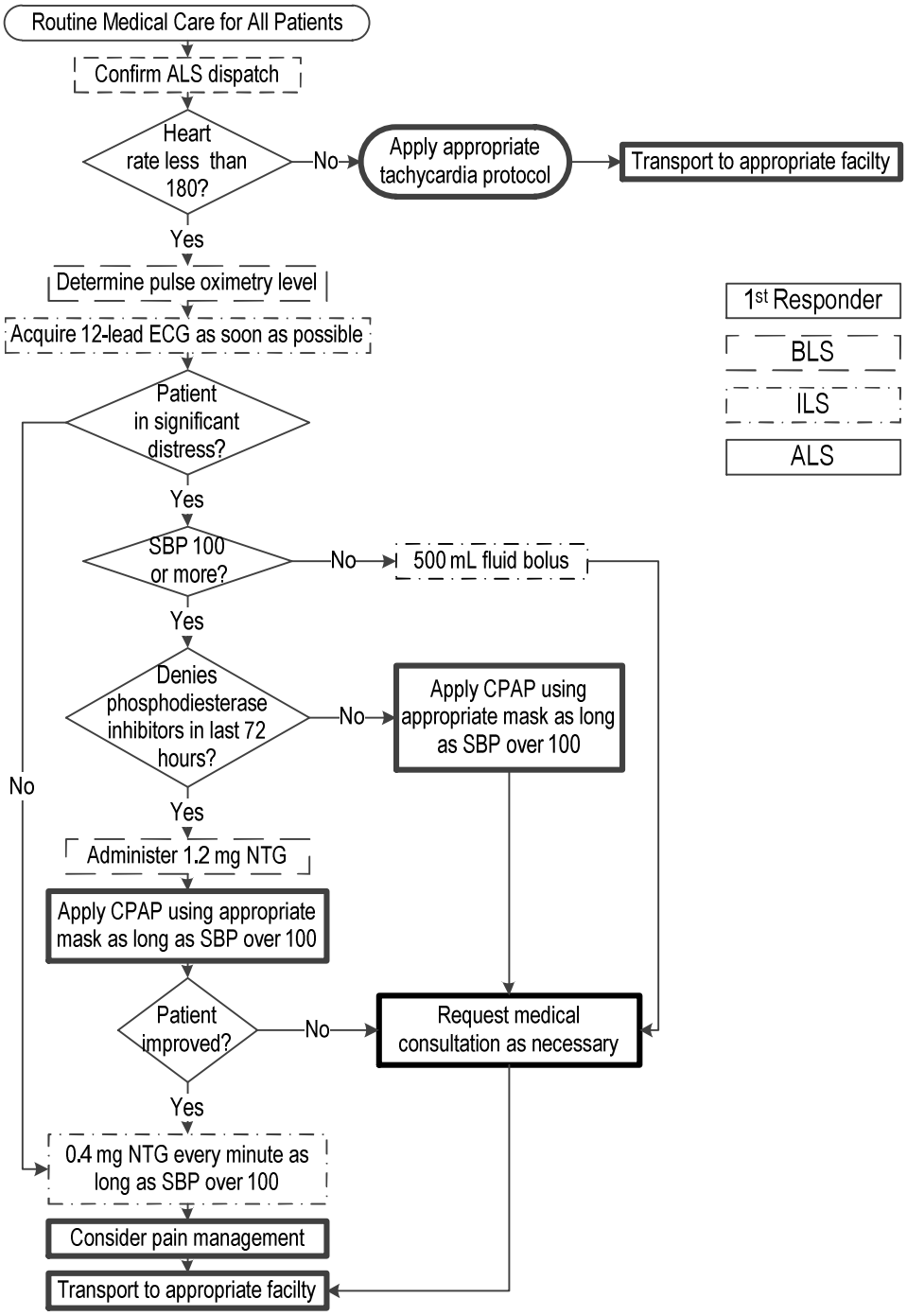
This is intended to be used only in cases of possible exposure to nerve agents or other organophosphates (e.g. insecticides).



NOTES:

- If symptoms of SLUDGEM appear, the first step is to remove the patient from the contaminated area as quickly as possible. This is often the only treatment needed.
- If vapor exposure alone, no need for skin decontamination.
- Administration of atropine is indicated only if there is an increasing difficulty breathing (inability to speak in full sentences) and rhinorrhea. If miosis alone, do not administer atropine.
- A total of three DuoDote kits may be administered to a single patient.
- Premature administration of the DuoDote kit poses a higher risk of death due to atropine-induced MI

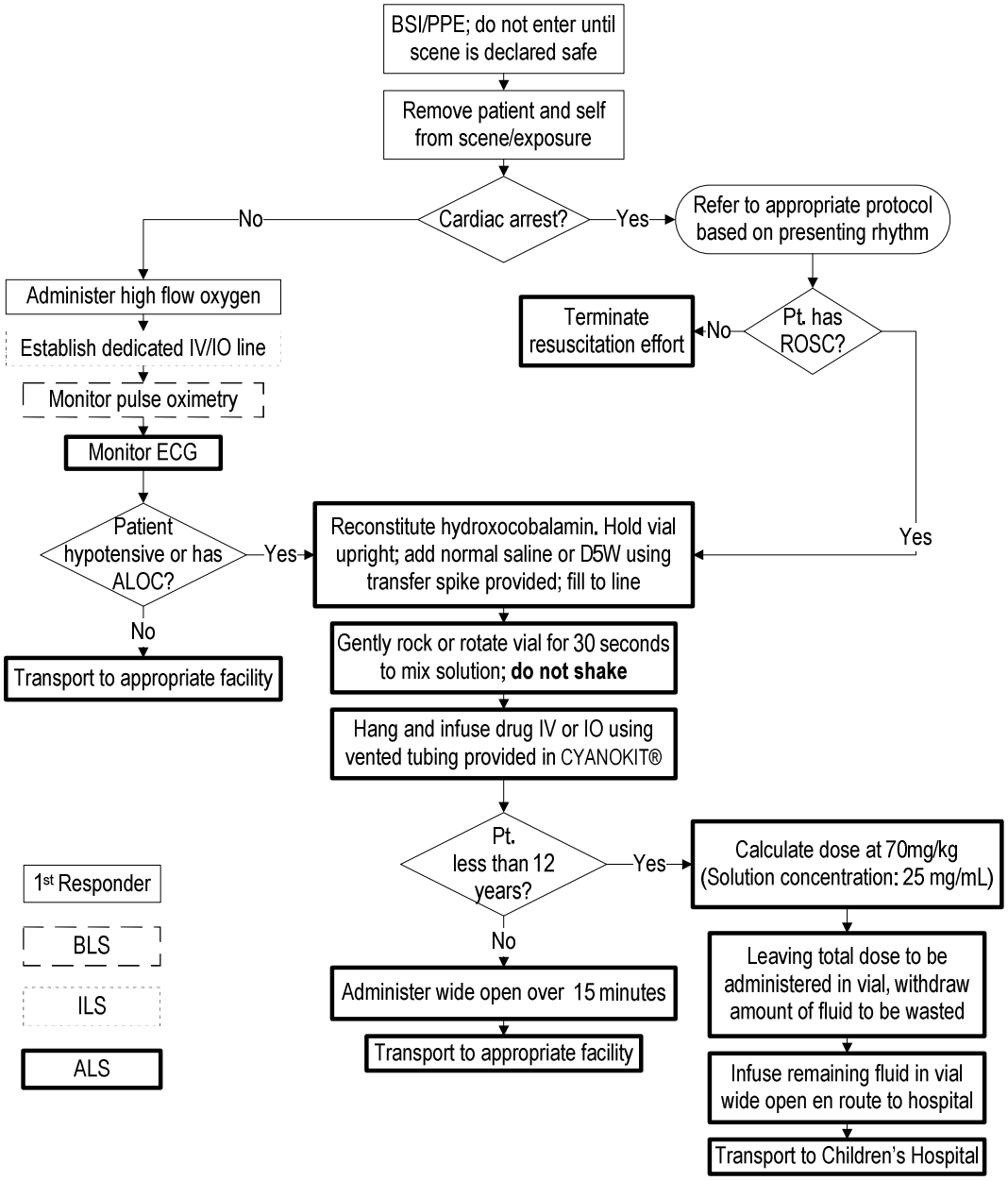
History	Signs/Symptoms	Working Assessment
May have a history of CHF	Orthopnea Restlessness Wet or wheezing breath sounds Hypertension Tachycardia Jugular vein distention	CHF



Notes:

- A history of CHF is not required before treatment is initiated.
- CPAP should not preclude standard medication administration.

History:	Signs/Symptoms:		Working Assessment:
Patient found in an area with known or suspected cyanide exposure Patient extricated from fire with hypotension, altered mental status, or cardiac arrest	Dyspnea Tachypnea Tachycardia / bradycardia Headache Dizziness Generalized weakness Bizarre behavior	Confusion Excessive sleepiness Coma Flushed Bitter almonds smell Hypotension Cardiac arrest	Possible cyanide poisoning

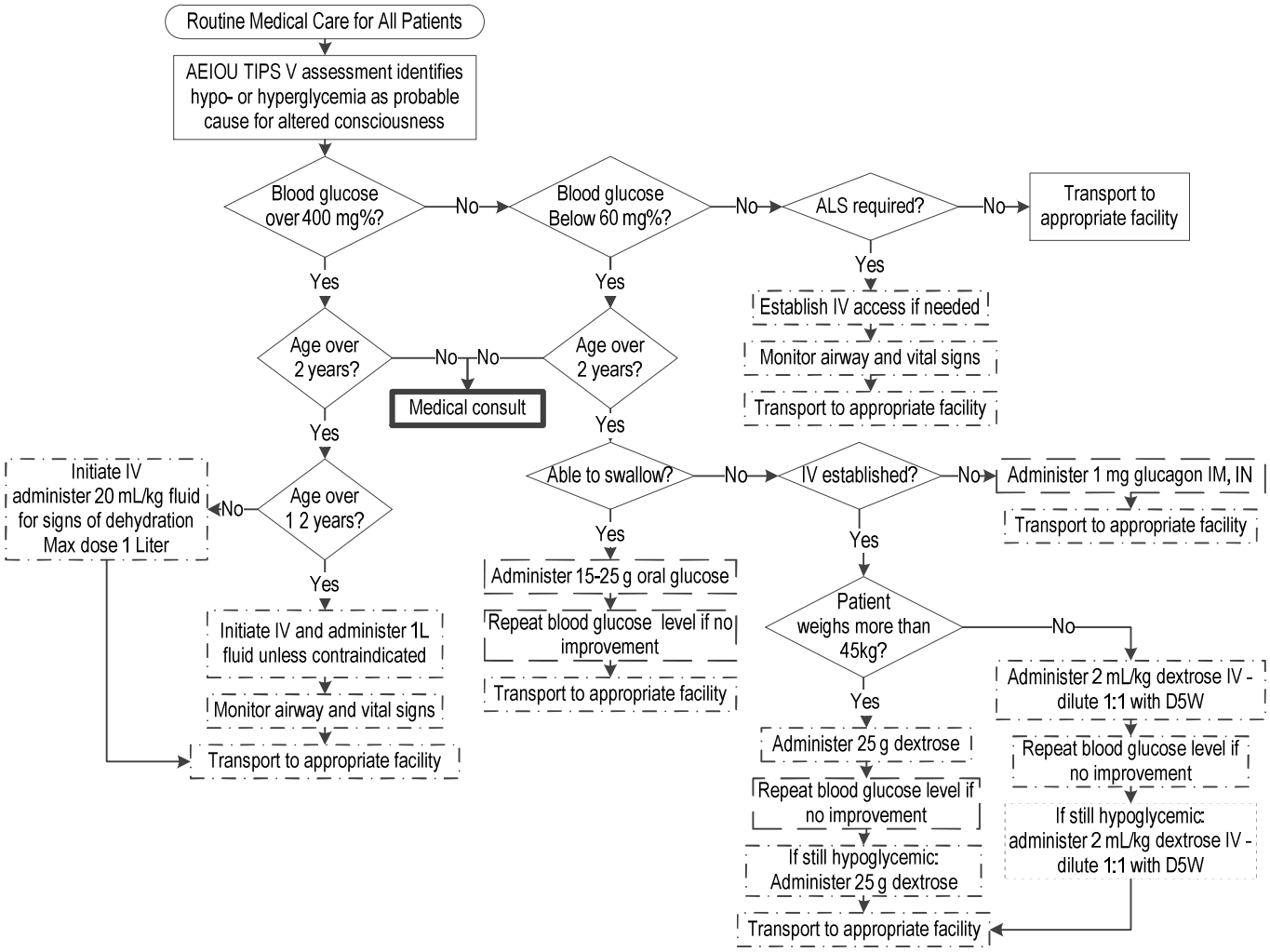


NOTES:

- Cyanide kits may be supplied by industrial facility where there is a risk of employee exposure
- Cyanide kit provides medication, vented IV tubing and transfer spike
- A dedicated IV line is critical, as the medication (hydroxocobalamin) is not compatible with many other medications
- Medication turns red when reconstituted

Initiated: 4/1/14	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 7/1/14	**HYPO - HYPERGLYCEMIA**	WI EMS Approval Date:
Revision: 1		Page 1 of 1

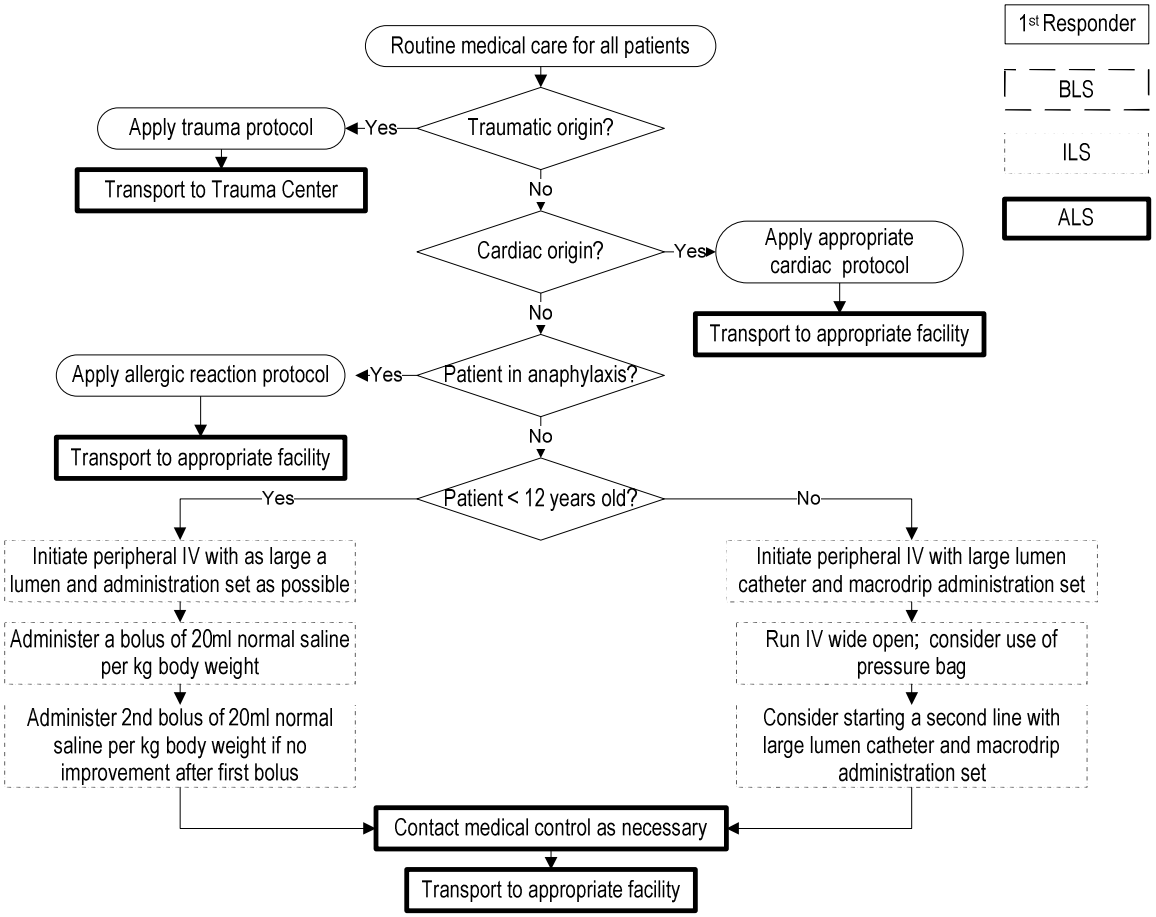
History:	**Signs/Symptoms:**	**Working Assessment:**
History of diabetes	Altered level of consciousness Bizarre behavior Cool, diaphoretic skin (hypoglycemia) Abdominal pain, Kussmaul respirations, warm & dry skin, fruity breath odor, dehydration (diabetic ketoacidosis)	Hypoglycemia Hyperglycemia



NOTES:

- A 12-lead ECG should be obtained for all diabetic patients with atypical chest pain or abdominal pain or other symptoms that may be consistent with atypical presentation of angina or acute myocardial infarction.
- Glucometers may have an upper and/or lower threshold for accurate readings. For documentation purposes, if your glucometer reads “High”, document the blood glucose level as 500; if your glucometer reads “Low”, document the blood glucose level as 20.

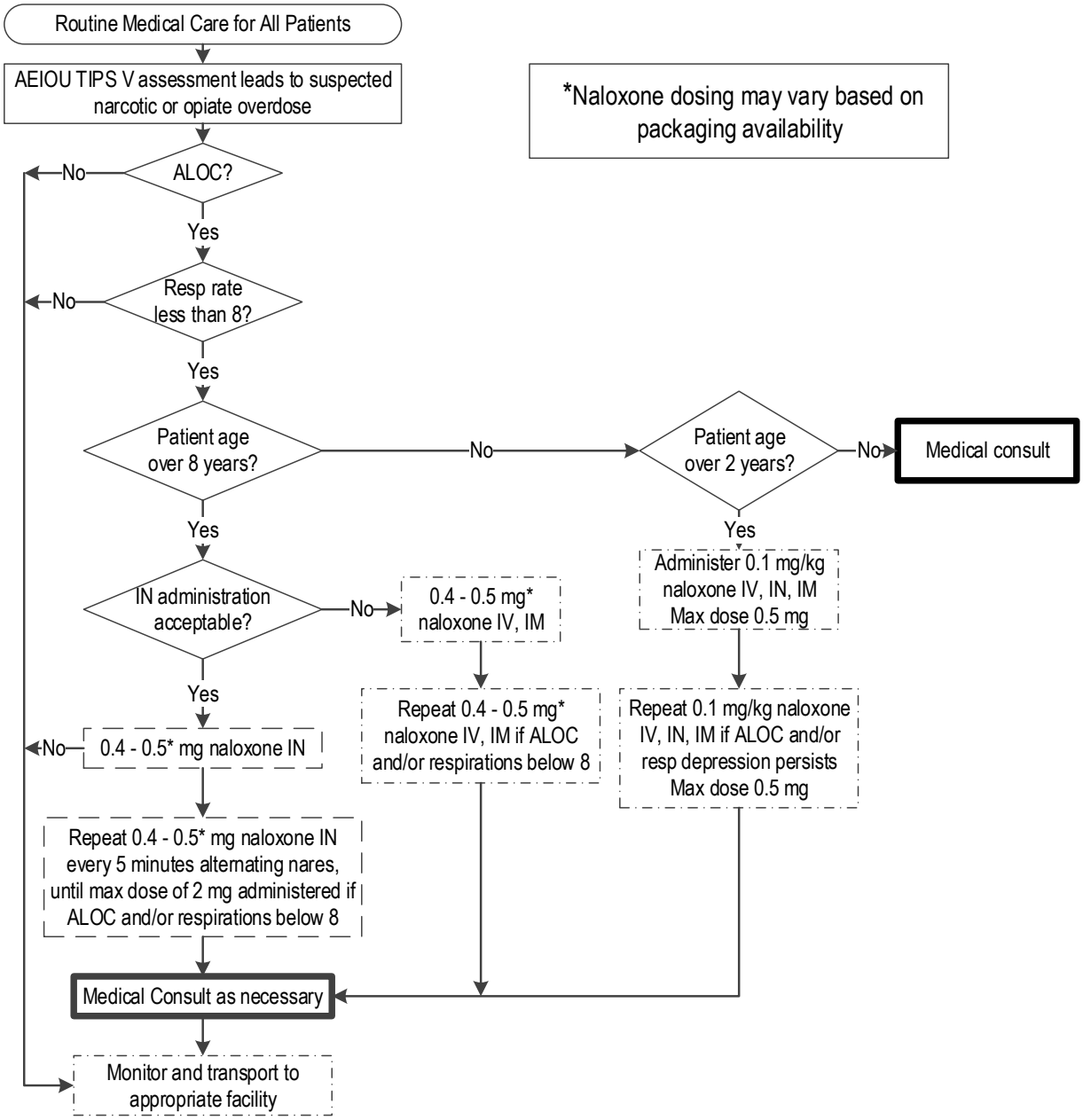
History:	Signs/Symptoms:	Working Assessment:
Blood loss: Trauma Vaginal bleed, GI bleed, AAA, ectopic pregnancy Fluid loss: Vomiting, diarrhea, fever Infection Cardiac ischemia (MI, CHF) Infection Spinal cord injury Allergic reaction Pregnancy	Restlessness, confusion Weakness, dizziness Weak, rapid pulse Cyanosis Increased respiratory rate Pale, cool, clammy skin Delayed capillary refill Systolic blood pressure less than 90 mmHg	Shock: Hypovolemic Cardiogenic Septic Neurogenic Anaphylactic Ectopic pregnancy Dysrhythmia Pulmonary embolus Tension pneumothorax Medication effect/overdose Vasovagal Physiologic (pregnancy)



NOTES:

- Hypotension is defined as a systolic blood pressure less than 90 mmHg or a fall of more than 60 mmHg in a previously hypertensive patient.
- Consider performing orthostatic vital signs on patients who haven't sustained traumatic injuries if suspected blood or fluid loss.
- Patients with preexisting heart disease who are taking beta-blockers or who have pacemakers installed may not be able to generate a tachycardia to compensate for shock.

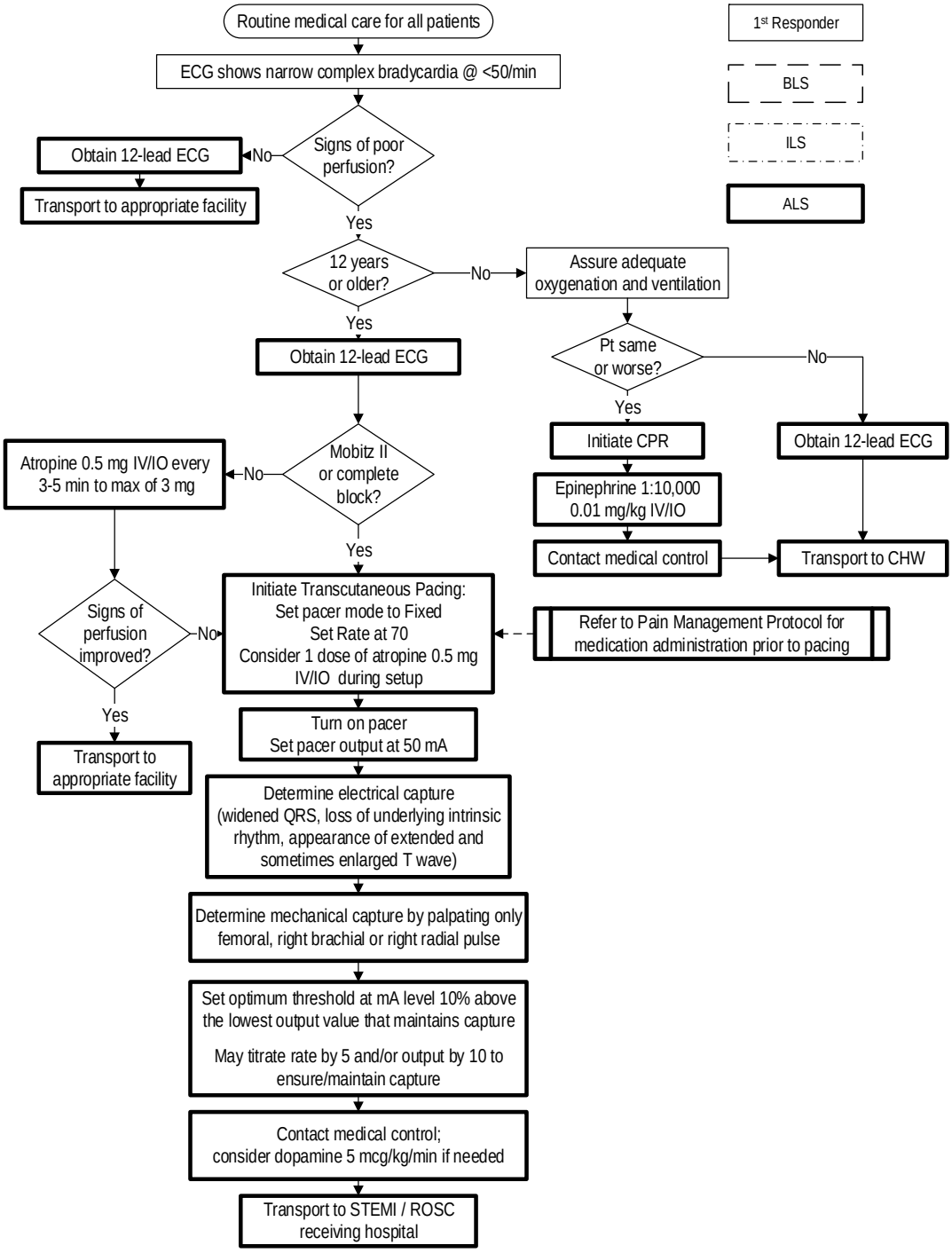
History:	Signs/Symptoms:	Working Assessment:
History of substance abuse Evidence consistent with narcotic or opiate use Other etiologies (AEIOU TIPS V) ruled out for ALOC	Altered level of consciousness Respiratory depression Pinpoint pupils	Overdose



NOTES:

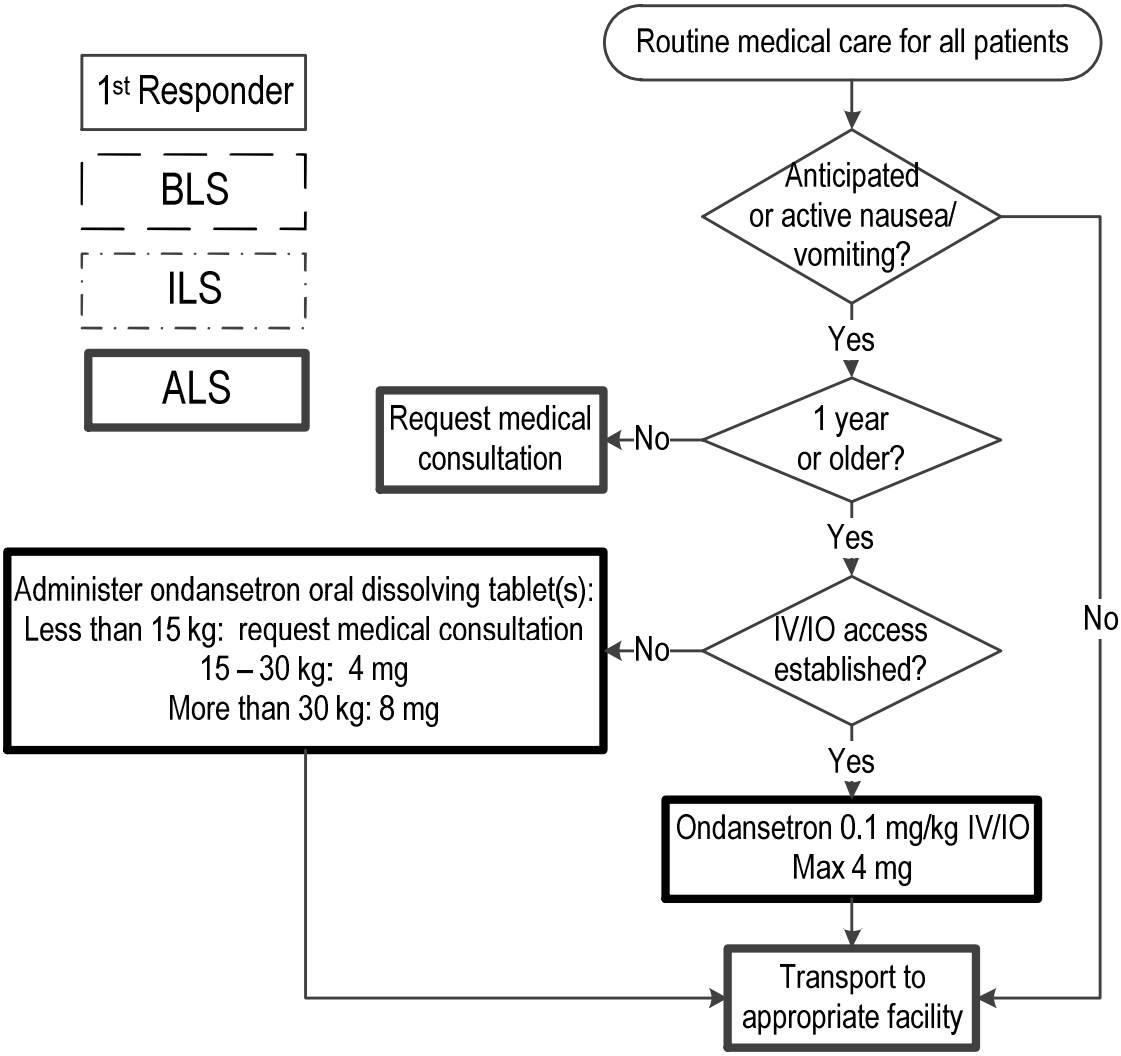
- **There is no evidence of naloxone improving the chance of ROSC when a patient is in cardiac arrest due to a narcotic / opiate overdose. Focus should be on standard CPR/ACLS with good CPR and mechanical ventilation rather than attempts with naloxone.**
- If the patient is suspected of being unconscious due to a narcotic overdose, restraining the patient may be considered before administering naloxone.
- If the patient can be aroused by painful stimuli enough to maintain an appropriate respiratory effort, the provider should opt for the stimuli versus naloxone. The goal is to only awaken those that cannot maintain an appropriate respiratory effort by non-invasive means i.e. painful stimuli.
- Alteration of consciousness is defined as responsive to pain or unresponsive on the AVPU scale.

History	Signs/Symptoms of Poor Perfusion	Working Assessment
Medications: Beta-blockers Calcium-channel blockers Digitalis Other medical etiology	Systolic BP < 90 Altered LOC, dizziness Chest pain Shortness of breath Diaphoresis ECG shows narrow complex <50/min Pallor	Narrow complex bradycardia



Initiated: 8/1/13	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL NAUSEA / VOMITING**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/Revised:		WI EMS Approval Date: 6/7/13
Revision:		Page 1 of 1

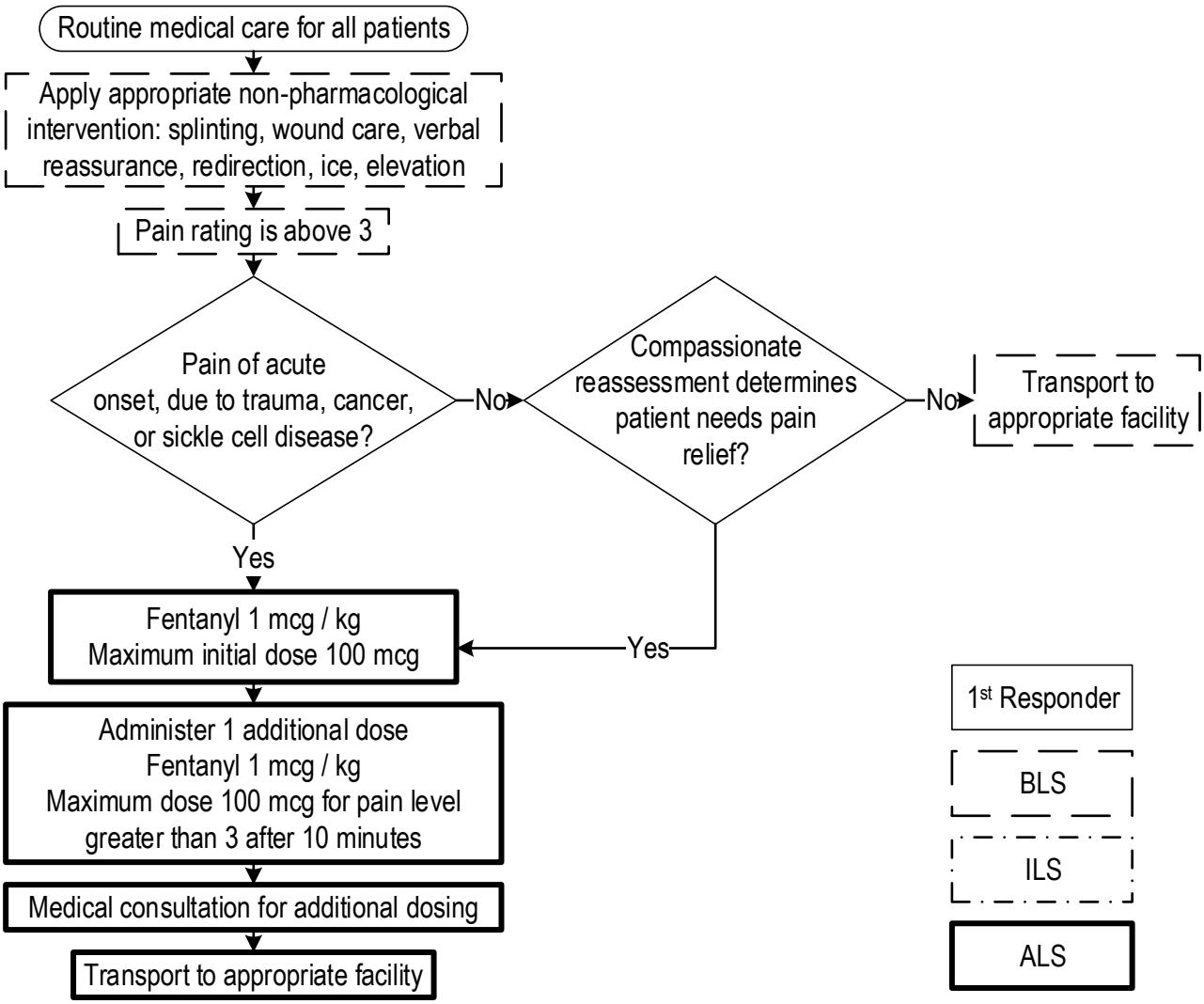
History	Signs/Symptoms	Working Assessment
Infection Medication side effect Withdrawal Abdominal pain Chest pain	Nausea/vomiting Thirst Tachycardia Dehydration	Nausea/Vomiting



Notes:

- Goal is to prevent/reduce nausea/vomiting
- Ondansetron is contraindicated in patients with known prolonged QT complex:
  - Male – greater than 450 ms
  - Female – greater than 470 ms

History	Signs/Symptoms	Working Assessment
Traumatic Injury Burns Abdominal Pain Sickle cell crisis Chest pain	Numeric, FACES, or FLACC Pain scale rating at 4 or greater	Candidate for narcotic pain management

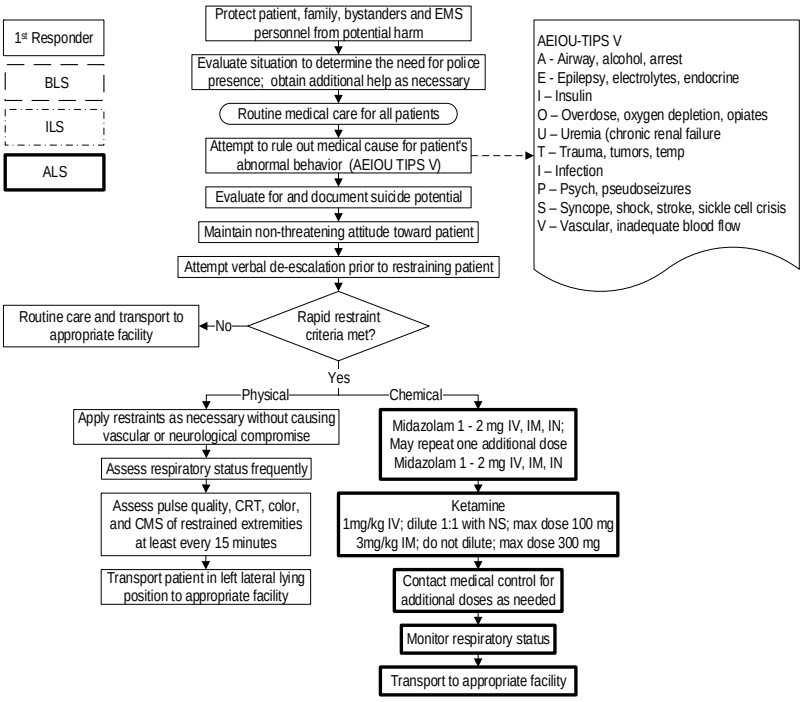


Notes:

- Pulse oximetry monitoring is required for all patients receiving analgesic
- IV, IN, IM, IO routes acceptable for administration of fentanyl
- Contraindications for administration
  - Uncorrected hypoxia refractory to supplemental oxygen administration
  - Uncorrected hypotension (SBP less than 90 mm Hg for adults; age based for pediatrics)
- Goal is to reduce pain to patient comfort
- Non-verbal patients: Use FLACC or FACES (FLACC appropriate for cognitive delay)

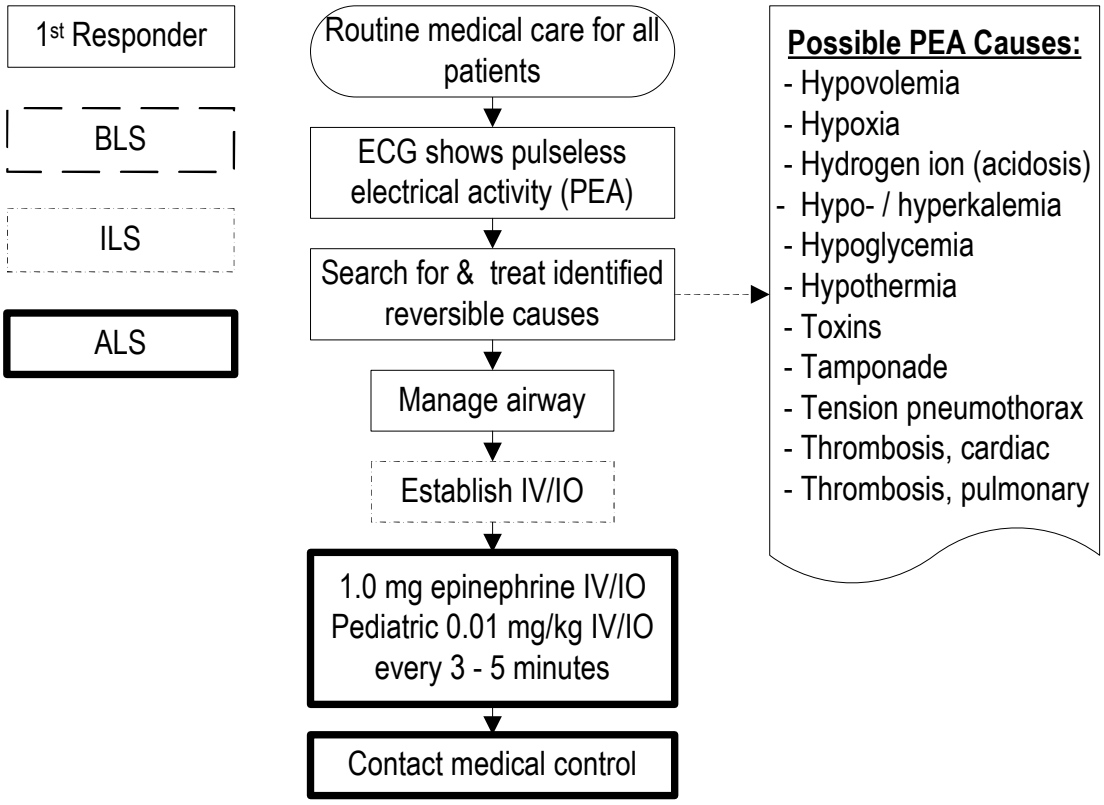
POLICY: Prior to the application of restraints – physical and/or chemical - a patient must meet the following criteria:

- Excited delirium/agitation
- Immediate threat of harm to self or others



NOTES:

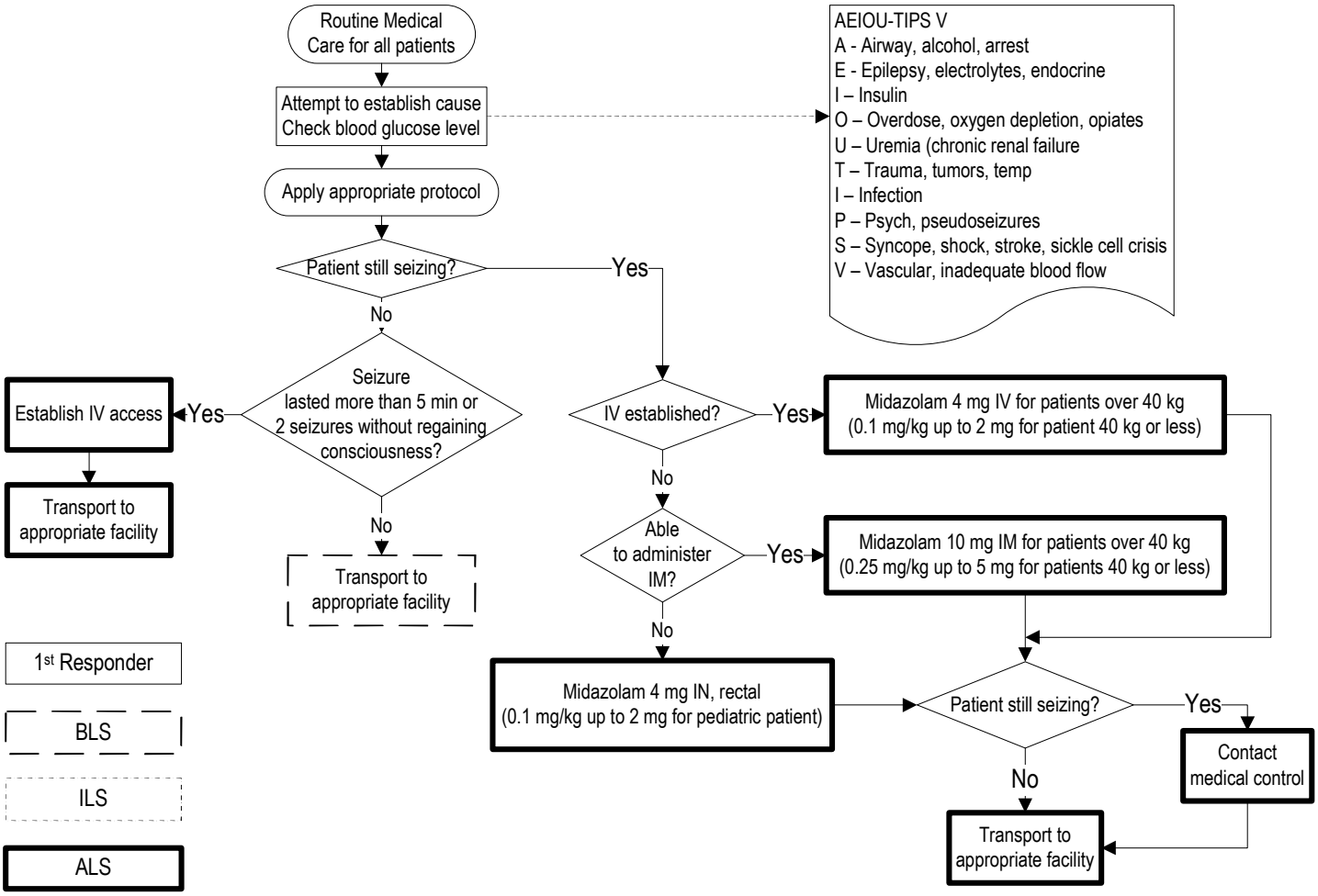
- Intranasal administration of ketamine is not an option
- Use the least restrictive or invasive method of restraint necessary
- Chemical restraint may be less restrictive and more appropriate than physical restraint in some situations
- Documentation of need for restraint must include:
  - Description 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.
- Side effects of ketamine may include excessive salivation, hypertension, tachycardia, hallucination



NOTES:

- Advanced airway management and/or rhythm evaluation should not interrupt CPR for >10 seconds
- When unable to establish IV/IO:
  - Adults: administer epinephrine via ET at 2.0 mg doses
  - Pediatric patients: administer epinephrine (0.1mg/kg of 1:1000 epi) via ET

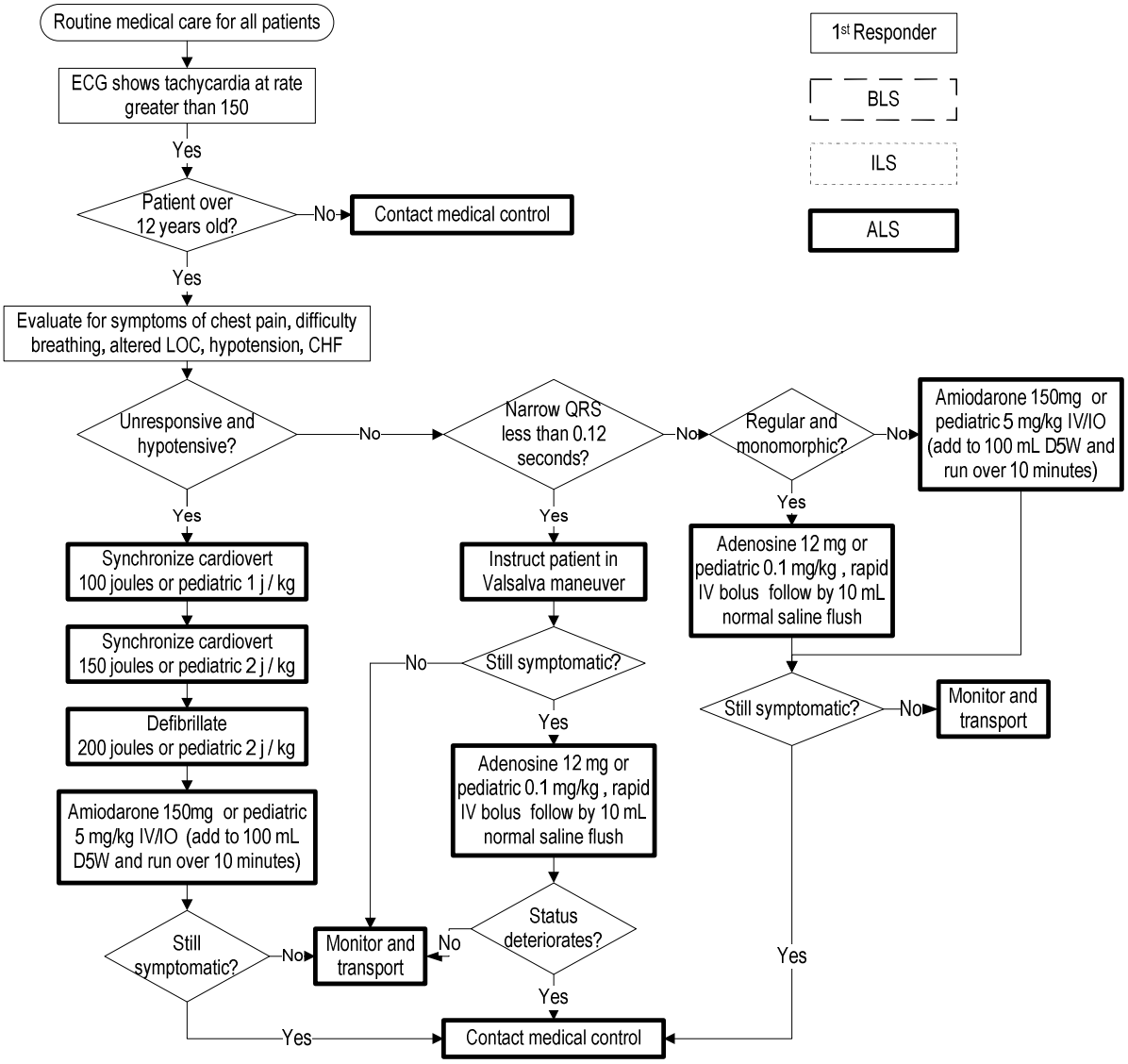
History:	Signs/Symptoms:	Working Assessment:
Reported/witnessed seizure activity History of seizures Medic alert tag Anti-seizure medications History of recent trauma History of diabetes Pregnancy Fever	Seizure activity Decreased mental status (post ictal) Sleepiness Incontinence Trauma Tongue laceration	Seizure (look for underlying cause): • Head trauma • Noncompliance • Fever/infection • Hypoglycemia • Overdose/poisoning • Alcohol withdrawal • Hypoxia • Eclampsia



NOTE:

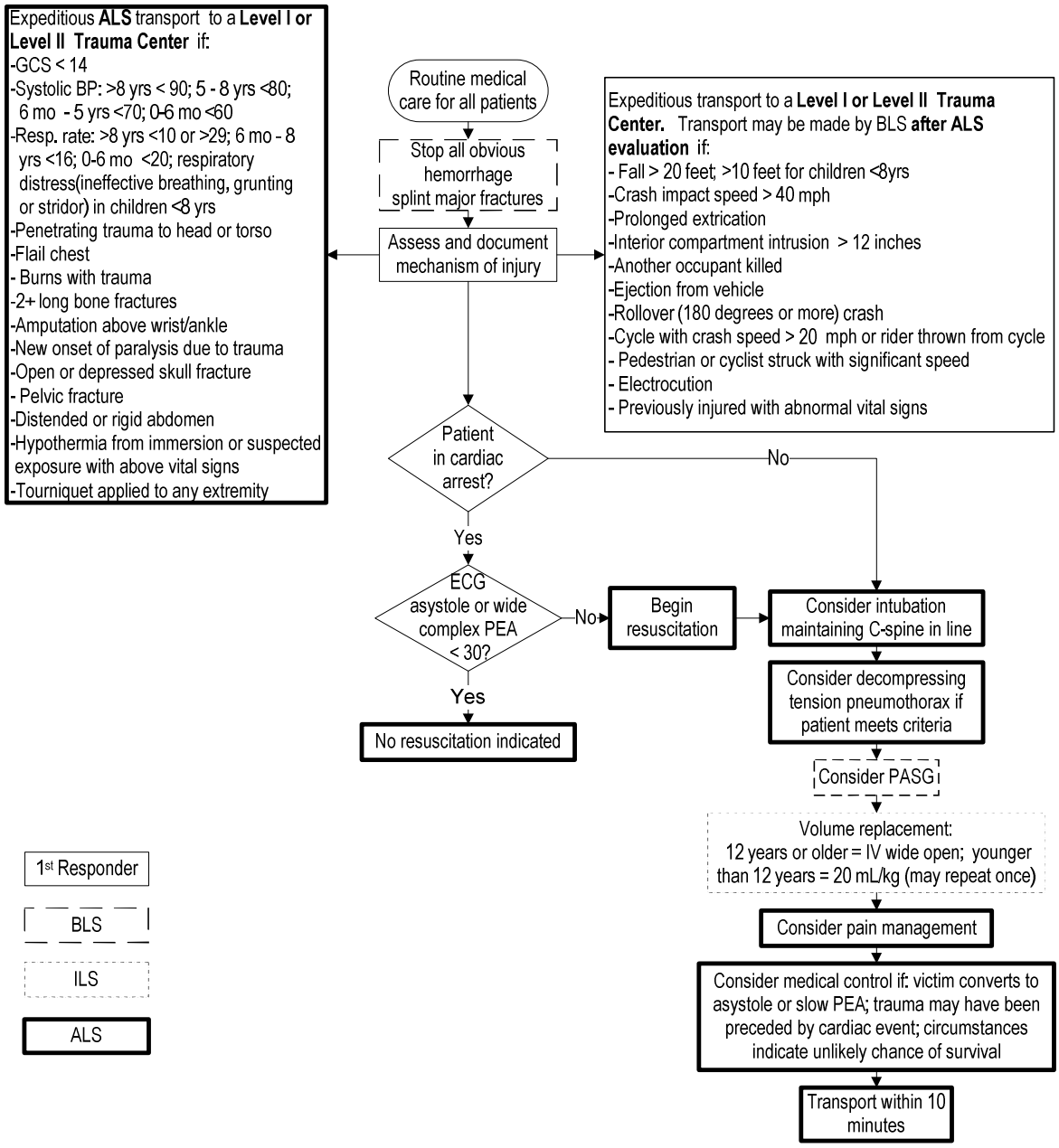
- Pediatric patients with febrile seizures rarely seize more than once. If patient seizes again, evaluate for another cause.
- Status Epilepticus is defined as a seizure lasting greater than 5 minutes ***OR*** two or more successive seizures without a period of consciousness or recovery.

History	Signs/Symptoms	Working Assessment
Arrhythmia History of palpitations or "racing heart" AICD MI CHF History of stimulant ingestion	Systolic blood pressure <90 Altered LOC, dizziness Chest pain Shortness of breath Diaphoresis Palpitations ECG shows tachycardia greater than 150/min	Tachycardia



NOTES:

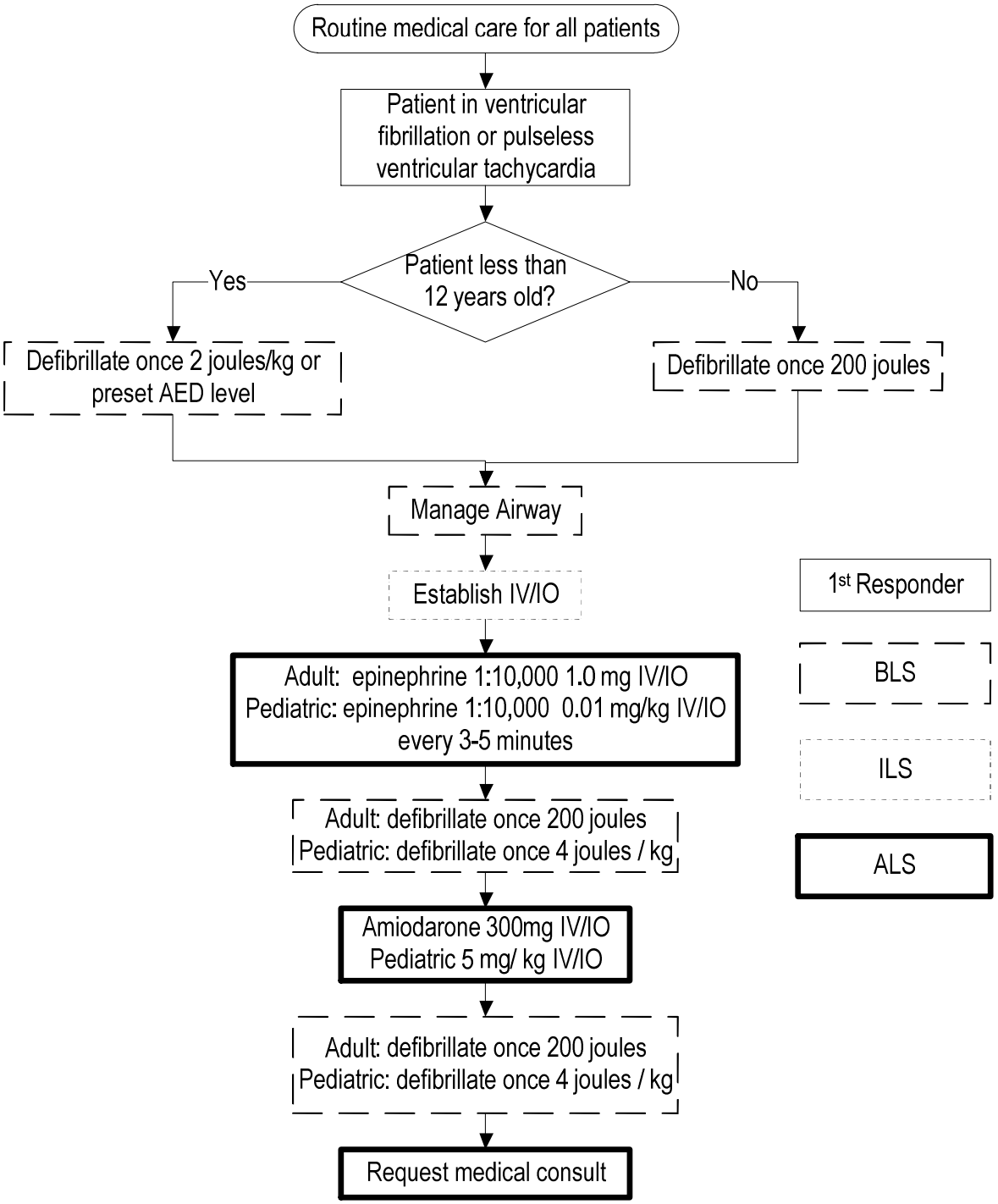
- Contraindications to adenosine are: heart block, heart transplant, resuscitated cardiac arrest; patients taking theophylline products, Tegretol (carbamazapine, which increases the degree of heart blocks caused by adenosine) or Persantine (dipyridamole, which potentiates the affects of adenosine).
- Because of its short half-life, adenosine must be administered rapid IV bolus followed by a 10 cc normal saline flush
- After administration of adenosine, patient may have a disorganized ECG or brief period of asystole prior to conversion to sinus rhythm. Patients have reported feelings of "impending doom" during this period.
- Adenosine is not effective on atrial fibrillation.
- Carotid massage is not to be performed in the Milwaukee County EMS System.



NOTES:

- In all patients with trauma-related cardiac arrest, establish the probable cause of the arrest.
- Resuscitation must be initiated on all patients with narrow (<0.12 sec) QRS complexes regardless of the rate. Patients in ventricular fibrillation or ventricular tachycardia should be defibrillated once.
- If resuscitation is not attempted based on the PFR or MED unit's interpretation of the ECG rhythm, the PFR or ALS team must complete the appropriate portion of the record.
- Apply pelvic splint or inflate pneumatic antishock garment (PASG) for patients with suspected pelvic fracture.
- Notify EMS Communications of the circumstances of the transport, ETA, and include adequate information to facilitate Trauma Team activation.
- Only reason to consider transport to the closest receiving hospital other than a trauma center is for the inability to ventilate the patient.

VENTRICULAR FIBRILLATION OR PULSELESS VENTRICULAR TACHYCARDIA



NOTES:

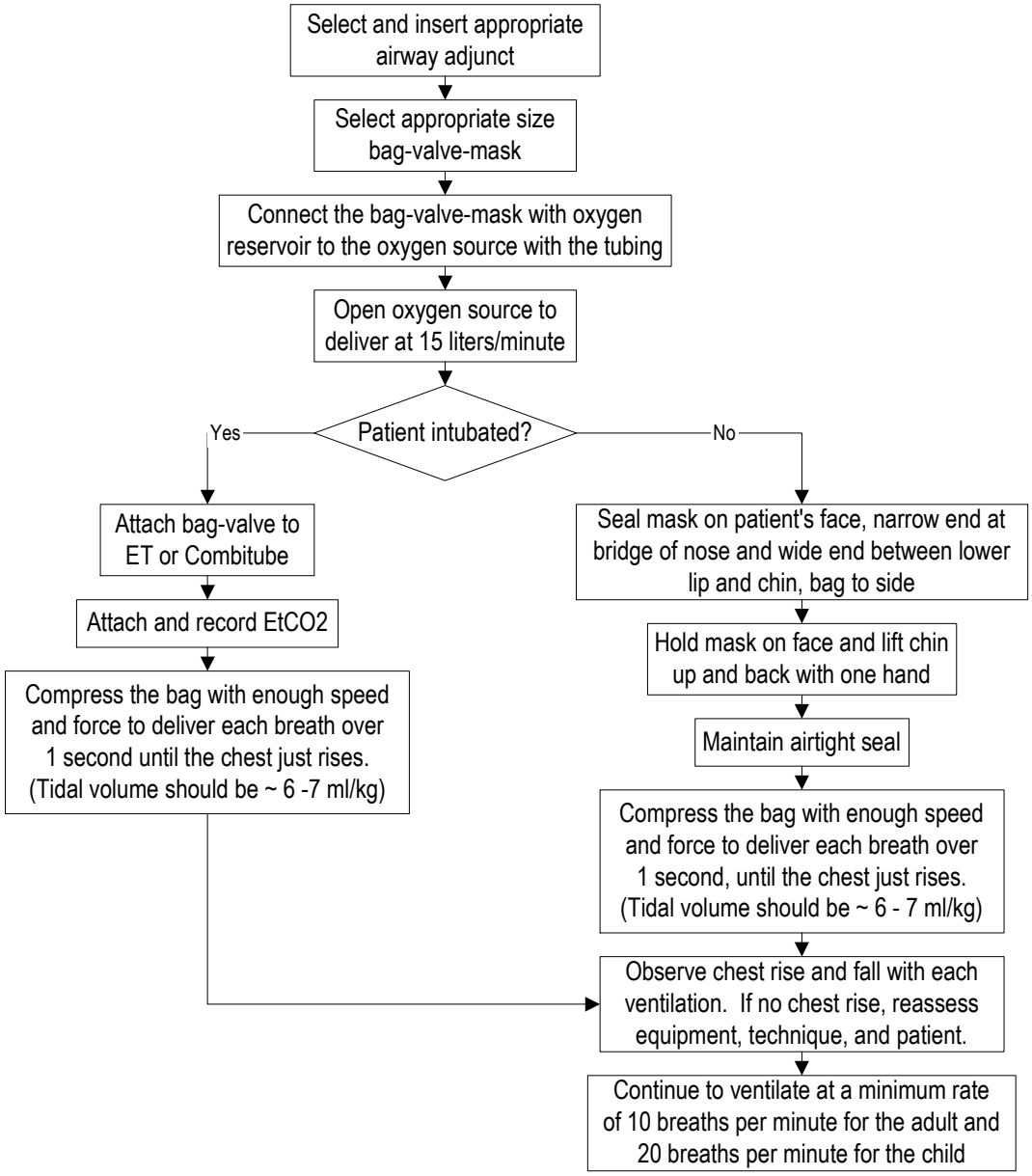
- Resume CPR immediately after shock for 2 minutes prior to re-checking rhythm
- Advanced airway management and/or rhythm evaluation should not interrupt CPR for >10 seconds
- When unable to establish IV/IO,
  - Adults: administer epinephrine 1:1000 via ET at 2.0 mg doses
  - Pediatric patients: administer epinephrine (0.1mg/kg of 1:1000 epi) via ET

STANDARDS FOR PRACTICAL SKILLS

AIRWAY SKILLS

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 6/1/06	**PRACTICAL SKILL**	Signature:
Revision: 4	**BAG-VALVE VENTILATION**	Page 1 of 1

Purpose:		**Indications:**	
To assist respirations in a patient whose respiratory effort is absent or inadequate		Any patient with inadequate or absent respiratory effort	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Provides for ventilation with supplemental oxygen Reduces exposure to upper airway secretions	Can be difficult to maintain face seal Does not prevent aspiration	Gastric inflation	Facial trauma with disruption of the bone framework of the face and jaw

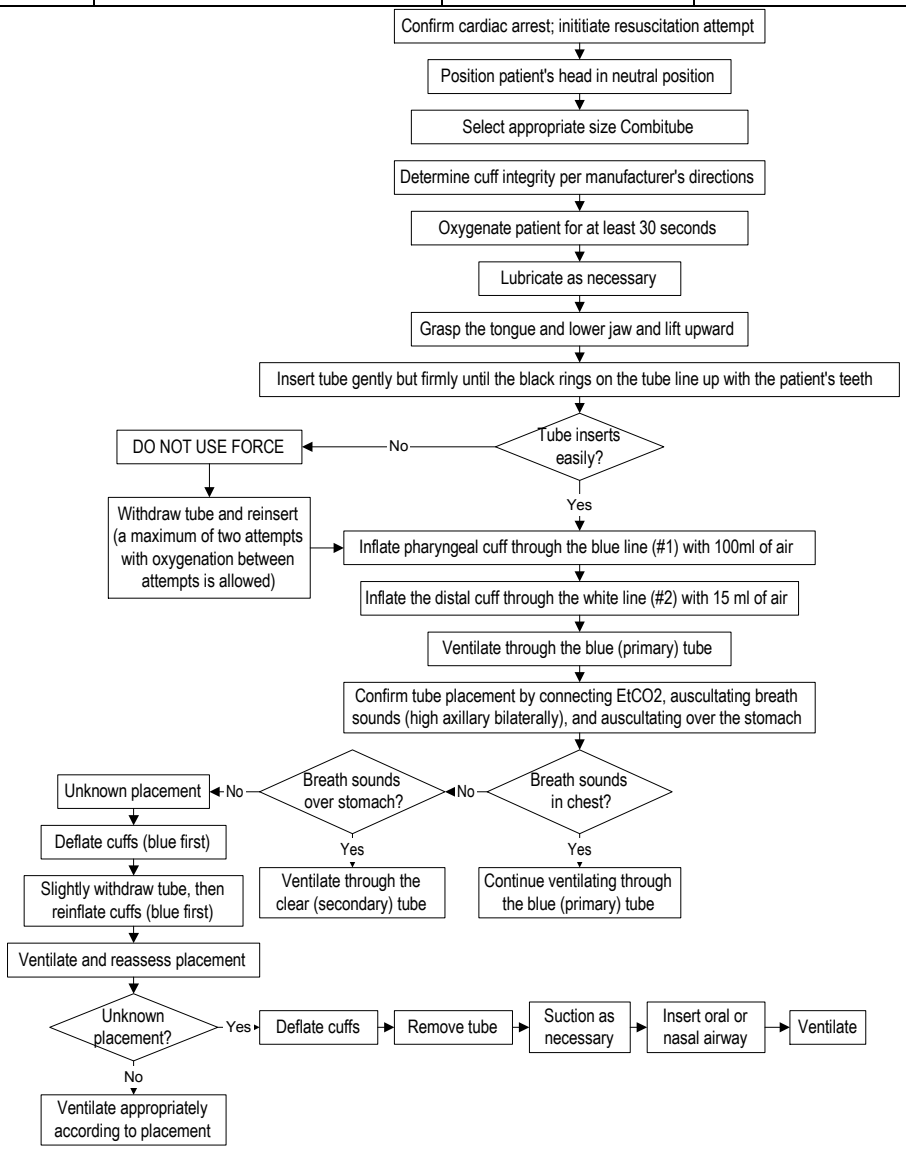


NOTES:

- For patients with a suspected cervical spine injury, use the jaw thrust maneuver to open the airway.
- For patients not intubated, the 2-person method for bag-valve-mask ventilation is preferred.

Initial: 5/96	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 12/11/02	**PRACTICAL SKILL**	Signature:
Revision: 3	**COMBITUBE AIRWAY**	Page 1 of 1

Purpose:		**Indications:**	
To prevent regurgitation of stomach contents into the airway To facilitate ventilation with a bag-valve mask To provide a secure airway		Cardiac arrest, medical or traumatic	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Cannot be misplaced Minimal training required Minimal spinal manipulation Facilitates suctioning	Gag reflex must be absent Patient must be unconscious Placement must be identified (trachea or esophagus) May need removal before endotracheal intubation	Possible trauma to airway or esophagus	Patients <5 feet in height for Combitube Patients < 4 feet in height for Combi SA Known esophageal disease or trauma Intact gag reflex Caustic ingestion



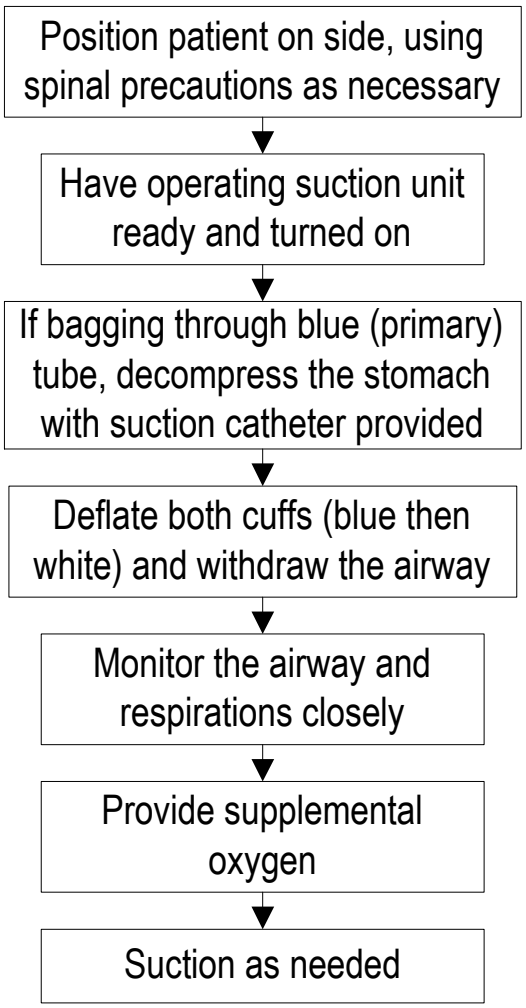
NOTES:

When ventilating through the blue (primary) tube:

- The Combitube is placed in the esophagus when breath sounds are present bilaterally and epigastric sounds are absent.
  - The clear tube may be used for removal of gastric fluid or gas with the catheter provided in the airway kit.
- The Combitube is placed in the trachea when breath sounds are absent and epigastric sounds are present.
- The Combitube placement is unknown when both breath and epigastric sounds are absent.

Initial: 5/96	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 12/11/02	**COMBITUBE REMOVAL**	Signature:
Revision: 2		Page 1 of 1

Purpose:		**Indications:**	
To safely remove a Combitube from the patient's airway		Patient regains consciousness Protective gag reflex returns Ventilation is inadequate	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Removes focus of discomfort and agitation from a patient with an intact gag reflex who is adequately ventilating on their own	Loss of positive airway control	Aspiration	Any patient unable to adequately ventilate or protect own airway

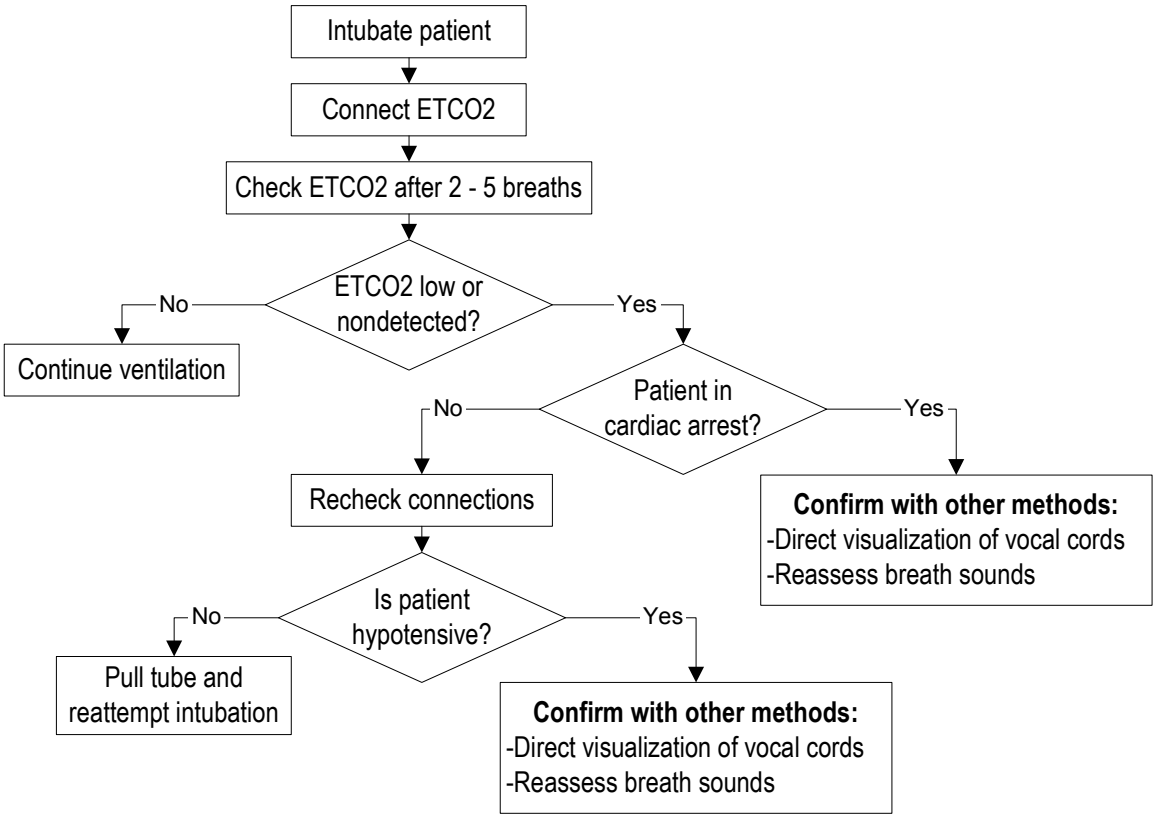


NOTES:

- If considering Extubation due to patient agitation, contact medical control for possible sedation order.
- Remove the tube in a smooth, steady motion, suctioning as needed.

Initial: 9/12/01	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 9/24/03	**CONFIRMATION OF**	Signature:
Revision: 1	**INTUBATION**	Page 1 of 1

Purpose:		**Indications:**	
To confirm that an endotracheal tube has been correctly placed in the patient's trachea; to confirm that a patient is being ventilated through the correct port of the Combitube.		Critically ill patient who is intubated with an endotracheal tube or Combitube.	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Confirms that supplemental oxygen is being delivered to the patient's lungs	None	Inaccurate reading due to misplacement of ETT or ventilation through wrong port of Combitube.	None

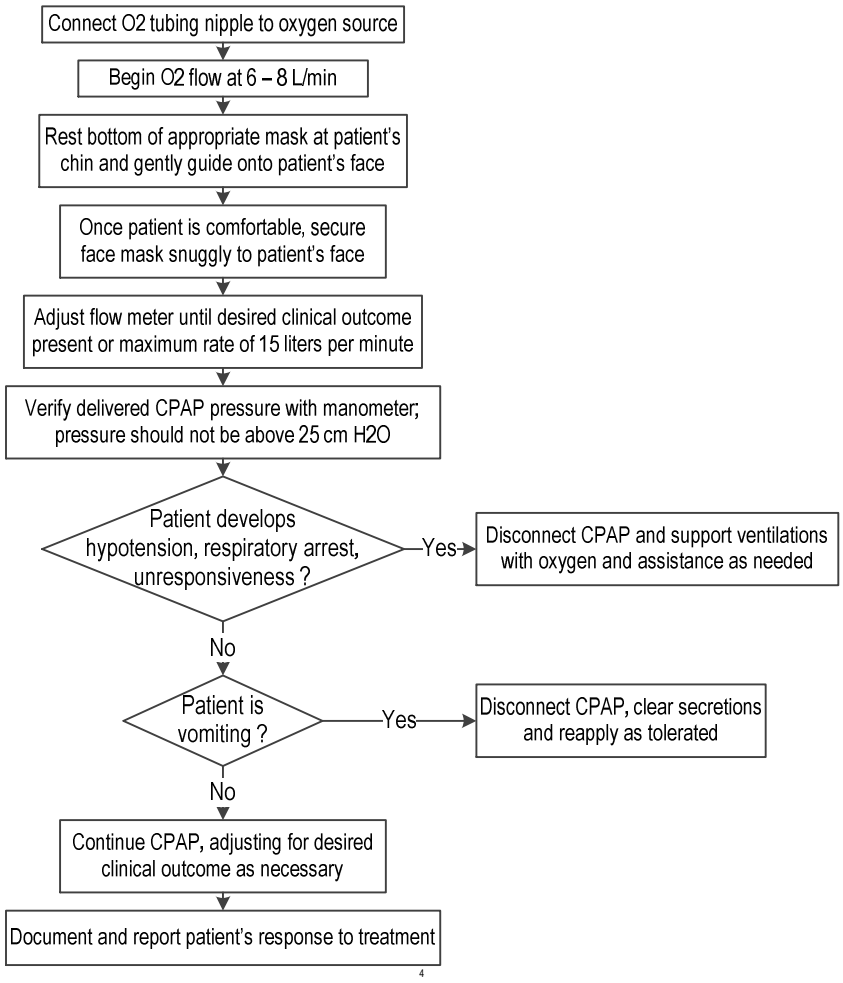


NOTES:

- ETCO2 can be used in addition to listening for breath sounds with the Combitube to confirm ventilation through the proper tube.
- A normal ETCO2 reading is between 33 and 43 mmHg.
- The ETCO2 waveform can be used as a guide to CPR compressions and return of spontaneous circulation.
- The ETCO2 should be recorded whenever vital signs are checked and after moving the patient. Minimally, the value should be recorded immediately after intubation and upon arrival at the hospital (or when resuscitative efforts are stopped).

Initial: 8/1/13	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised:	**CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)**	
Revision:		Page 1 of 1

Purpose:		**Indications:**	
To provide continuous positive airway pressure (CPAP) ventilation support adjunct in patients with moderate to severe respiratory distress		Moderate to severe respiratory distress in spontaneously breathing patients	
Advantages: Adjunct to respiratory distress therapy to be used in conjunction with oxygen and other respiratory treatment medications and therapies; if used early, may reduce the need for intubation and improve clinical comfort and outcome; light weight and oxygen sufficient; easily transferrable between portal, ambulance wall and ER wall oxygen sources	**Disadvantages:** Can be difficult to initiate and maintain seal; will require therapeutic relationship between provider and patient to establish trust with placing mask over face; competes with medication administration; oxygen use	**Complications:** Gastric insufflation; aspiration risk'	**Contraindications:** Respiratory arrest; unconscious; active vomiting; systolic blood pressure less than 100; pneumothorax; facial anomalies; facial trauma



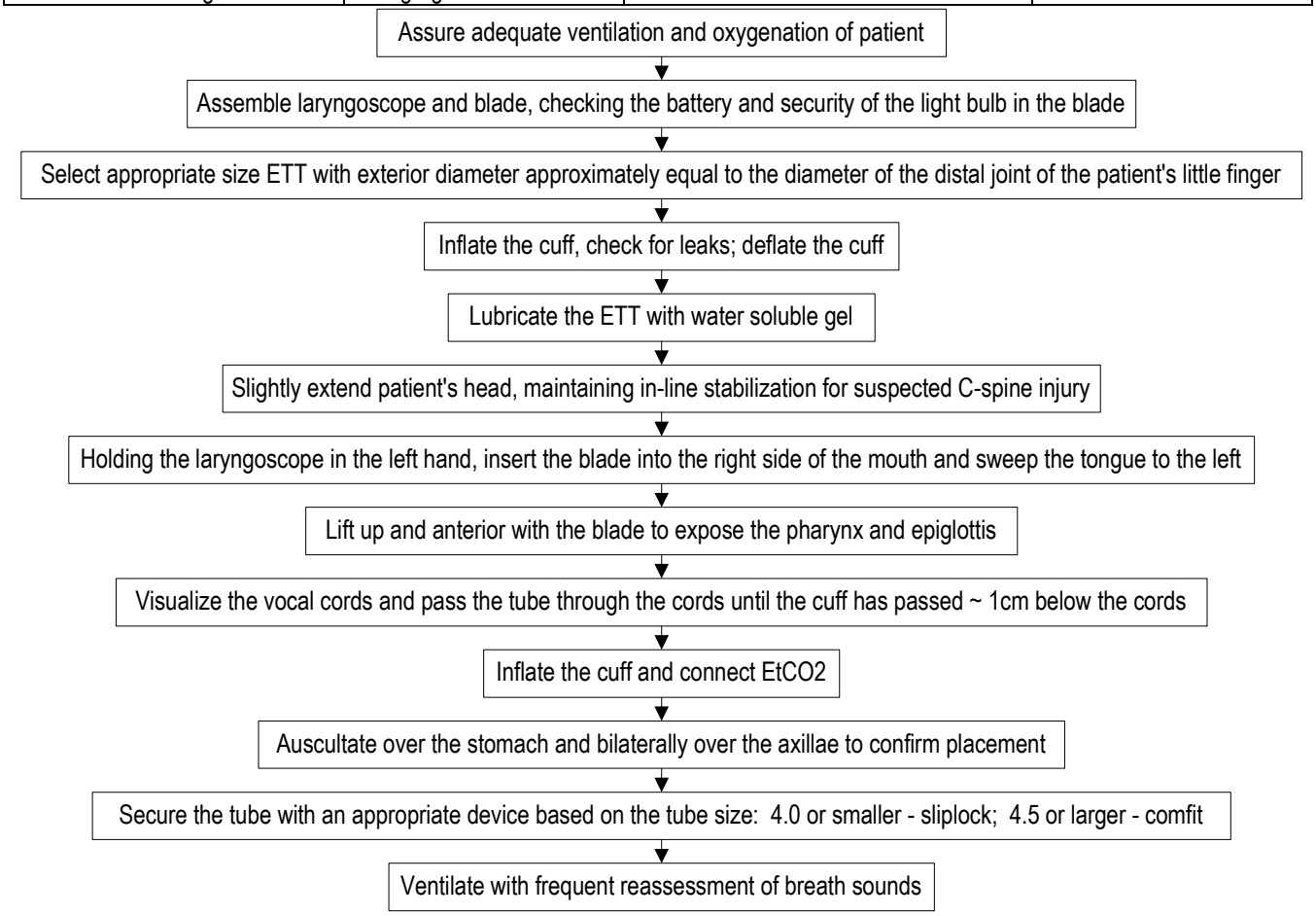
Flow vs. Pressure	
Flow (LPM)	CPAP (approx. cm H2O)
6	2.0 – 3.0
10	6.0 – 7.0
12	8.0 – 9.0
15	11.0 – 12.0
8-9	5.0
10-12	7.5
13-14	10.0
Flush	13.0 (max)

Oxygen Tank Time Chart			
Flow/L/Min	D Cylinder	E Cylinder	M Cylinder
5	70	123	703
6	58	102	598
8	44	77	498
10	35	61	374
12	29	51	299
15	23	41	199

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/14/09	**PRACTICAL SKILL**	Signature:
Revision: 7	**ENDOTRACHEAL INTUBATION**	Page 1 of 1

Purpose:	**Indications:**
To provide positive control of an airway To facilitate assisted ventilation in a patient with inadequate respirations To prevent aspiration in a patient with decreased reflexes	Patients in severe respiratory distress Unconscious patients unable to protect own airway Apnea or inadequate respiratory effort

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Positive control of the airway Prevents aspiration Facilitates ventilation Provides route for administration of selected medications Facilitates suctioning	Requires special training and equipment May be difficult to avoid C-spine movement Does not prevent gastric regurgitation	Airway trauma Misplacement Esophageal placement causes hypoxia Potential for simple or tension pneumothorax Gastric dilatation	Patient with intact gag reflex

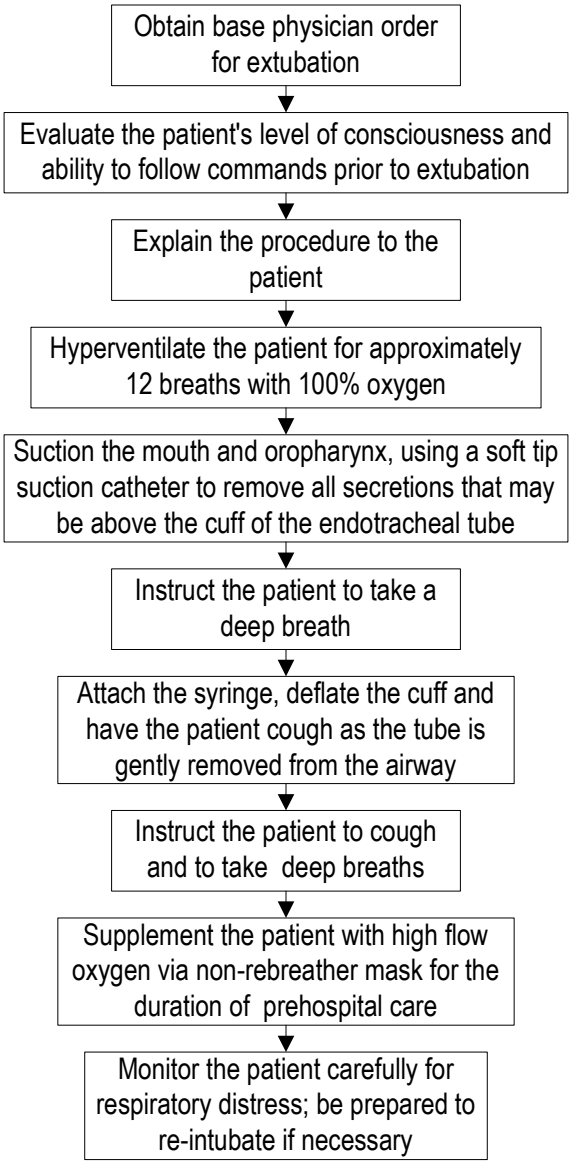


NOTES:

- To prevent accidental extubation of a patient who has been intubated, the following steps should be taken when managing a patient with a 2.5 - 5.5 ET tube:
  - Inflate the cuff with 1 cc air. Avoid overinflating the cuff, as this may cause airway damage. The pilot balloon should remain soft after inflation of the cuff.
  - Verify ETT placement by connecting and documenting the EtCO2 reading.
  - Management of the airway should be maintained by an EMT-Paramedic and not turned over to an EMT-Basic.
  - The head of the intubated patient should be maintained in an in-line stabilized position during transport.
- Most accidental extubations of patients occur during patient movement. The bag-valve assembly should be disconnected from the ETT for no longer than 30 seconds. ETT placement must be verified when reattaching the bag-valve.
- Limit intubation attempts to two attempts per provider with one additional attempt by one additional provider – total of three attempts. Assure adequate oxygenation and ventilation between intubation attempts. If unable to intubate after three attempts, insert non-visualized airway.

Initial: 7/94	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/16/11	**ENDOTRACHEAL EXTUBATION**	Signature:
Revision: 3		Page 1 of 1

Purpose:		**Indications:**	
To safely remove an indwelling endotracheal tube (oral or nasal) from the trachea		Patient's gag reflex returns and is ventilating on own	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Removes focus of discomfort and agitation from an alert patient who has an intact gag reflex and is ventilating on his/her own	Loss of positive airway control	Laryngospasm Aspiration	Any patient unable to adequately ventilate or protect his/her own airway

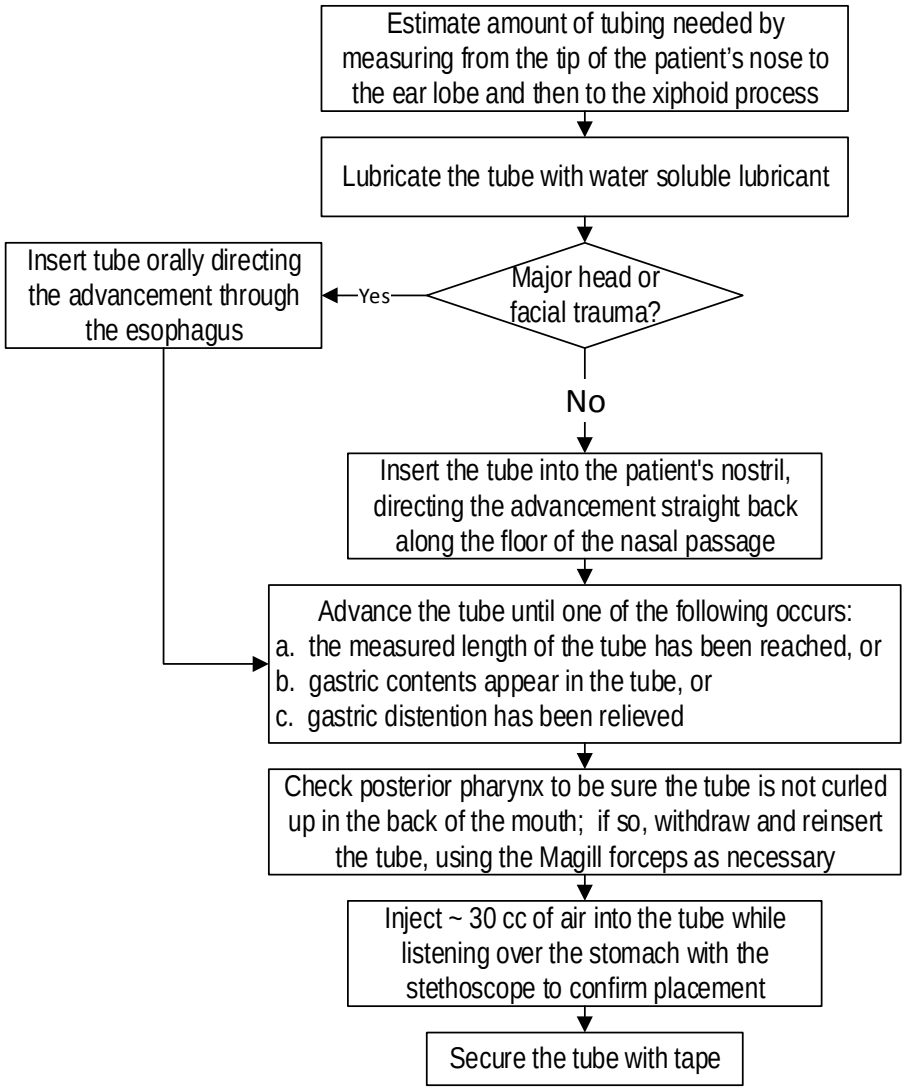


NOTE:

- If patient becomes agitated or tries to self-extubate, contact medical control for possible sedation order.

Initial: 9/92	MILWAUKEE COUNTY EMS	Approved: M. Riccardo Colella, DO, MPH, FACEP
Revised: 3/1/15	PRACTICAL SKILL	
Revision: 3	GASTRIC TUBE PLACEMENT	Page 1 of 1

Purpose:		Indications:	
To decompress gastric dilatation following placement of an endotracheal tube		Intubated patient with gastric dilatation	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Decompresses the stomach, reducing the chance for regurgitation and aspiration Allows freer downward movement of the diaphragm, making ventilation easier	May stimulate vomiting	Epistaxis Accidental passage into the trachea may stimulate coughing	May NOT be used with an uncuffed ET tube



NOTES:

- The tube may be inserted orally if difficulty is encountered during attempt at nasal insertion.

Initial: 10/15/08	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**PRACTICAL SKILL**	Signature:
Revision:	**KING LT-D AIRWAY**	Page 1 of 1

Purpose:			**Indications:**
To facilitate ventilation with a bag-valve mask To provide a secure airway when endotracheal intubation is not feasible			Cardiac arrest, medical or traumatic
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Minimal training required Rapid blind insertion Faster time to ventilation	Gag reflex must be absent Patient must be unconscious Does not protect from aspiration May require removal before endotracheal intubation is possible	Possible trauma to airway or esophagus	Known esophageal disease or trauma Upper airway trauma or bleeding Intact gag reflex Caustic ingestion

Confirm cardiac arrest; inititiate resuscitation attempt

↓

Position patient's head in neutral position

↓

Select appropriate size King LT-D airway

Determine cuff integrity per manufacturer's directions

↓

Oxygenate patient for at least 30 seconds

↓

Lubricate as necessary

↓

Grasp the tongue and lower jaw and lift upward

↓

Insert tube gently but firmly into corner of mouth, advancing the tip under base of tongue

↓

Rotate tube back to midline as tip of tube passes under the tongue

↓

Advance tube until base of connecter is aligned with teeth or gums

↓

Inflate pilot tube

↓

Attach bag-valve device to connector and ventilate

↓

While bagging patient to assess ventilation, withdraw airway until ventilation is easy and adequate tidal volume is achieved with minimal airway resistance

↓

Confirm tube placement by connecting EtCO2 and assessing respiratory effect (breath sounds, chest rise, color improvement, etc.)

↓

Document and report EtCO2 to medical control

↓

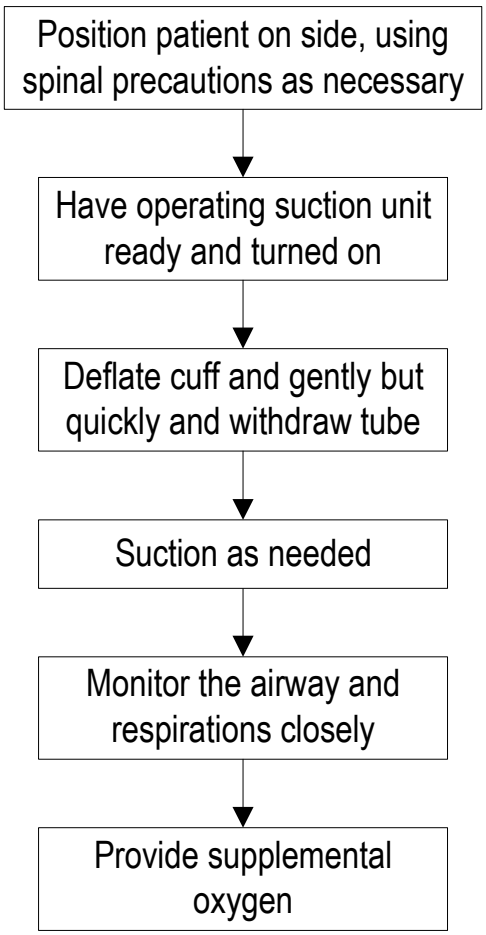
Continue ventilating at a rate consistent with current AHA guidelines

↓

Reassess tube placement and ventilatory status frequently

Initial: 10/15/08	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**KING LT-D AIRWAY REMOVAL**	Signature:
Revision:		Page 1 of 1

Purpose:		**Indications:**	
To safely remove a King LT-D airway from the patient's airway		Patient regains consciousness Protective gag reflex returns Ventilation is inadequate	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Removes focus of discomfort and agitation from a patient with an intact gag reflex who is adequately ventilating on their own	Loss of positive airway control	Aspiration	Any patient unable to adequately ventilate or protect own airway



NOTES:

- If considering Extubation due to patient agitation, contact medical control for possible sedation order.
- Remove the tube in a smooth, steady motion, suctioning as needed.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 6/1/06	**NASOPHARYNGEAL AIRWAY INSERTION**	Signature:
Revision: 2		Page 1 of 1

Purpose:		**Indications:**	
To maintain a patent airway by holding the tongue off the posterior pharynx		Decreased level of consciousness	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Better tolerated than rigid oral airway Less likely to stimulate gag reflex as patient regains consciousness Can be inserted without having to open mouth	Does not prevent aspiration	May cause epistaxis Pharyngeal stimulation may cause gagging or vomiting	Should not be inserted in patients with suspected basilar skull fractures or severe facial trauma

Select airway slightly smaller in diameter than the patient's nostril, equal in length to the distance from the nostril to ipsilateral earlobe, plus 1 inch

↓

Lubricate the exterior of the airway with a water soluble lubricant

↓

Insert the airway into the nare with with bevel facing the nasal septum

↓

Direct the airway straight back along the floor of the nasal passage until the flange end touches the external nares

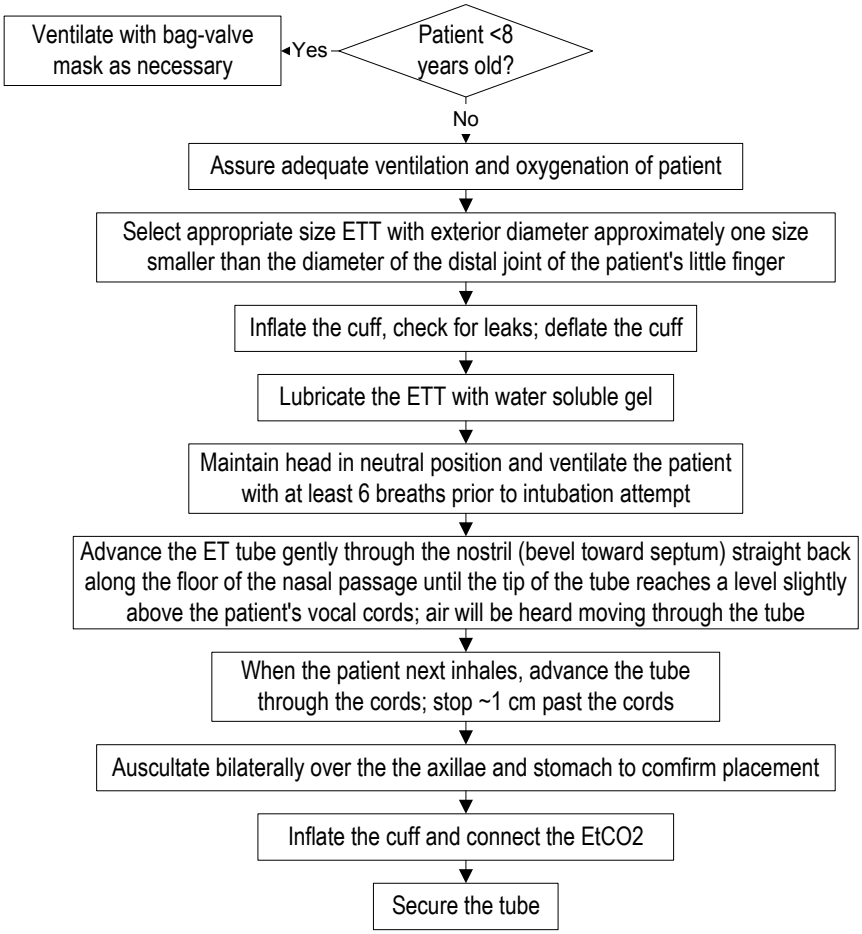
↓

Suction as necessary to clear secretions

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/15/08	**PRACTICAL SKILL**	Signature:
Revision: 5	**NASOTRACHEAL INTUBATION**	Page 1 of 1

Purpose:	**Indications:**
To provide positive control of an airway, especially in patients with some respiratory effort, who have a suspected C-spine injury, an intact gag reflex, or whose mouth cannot be opened To facilitate assisted ventilation in a patient with inadequate respirations	Patients in severe respiratory distress Conscious patients unable to protect own airway Apnea or inadequate respiratory effort

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Positive control of the airway Prevents aspiration Facilitates ventilation Provides route for administration of selected medications Facilitates suctioning No need to manipulate C-spine Better tolerated by conscious patient	Requires special training and equipment Cannot be used on pediatric patients under 8 years of age due to anatomy of the airway	Airway trauma Misplacement Esophageal placement causes hypoxia Potential for simple or tension pneumothorax Gastric dilatation Epistaxis	Basilar skull fracture Major facial trauma Laryngospasm

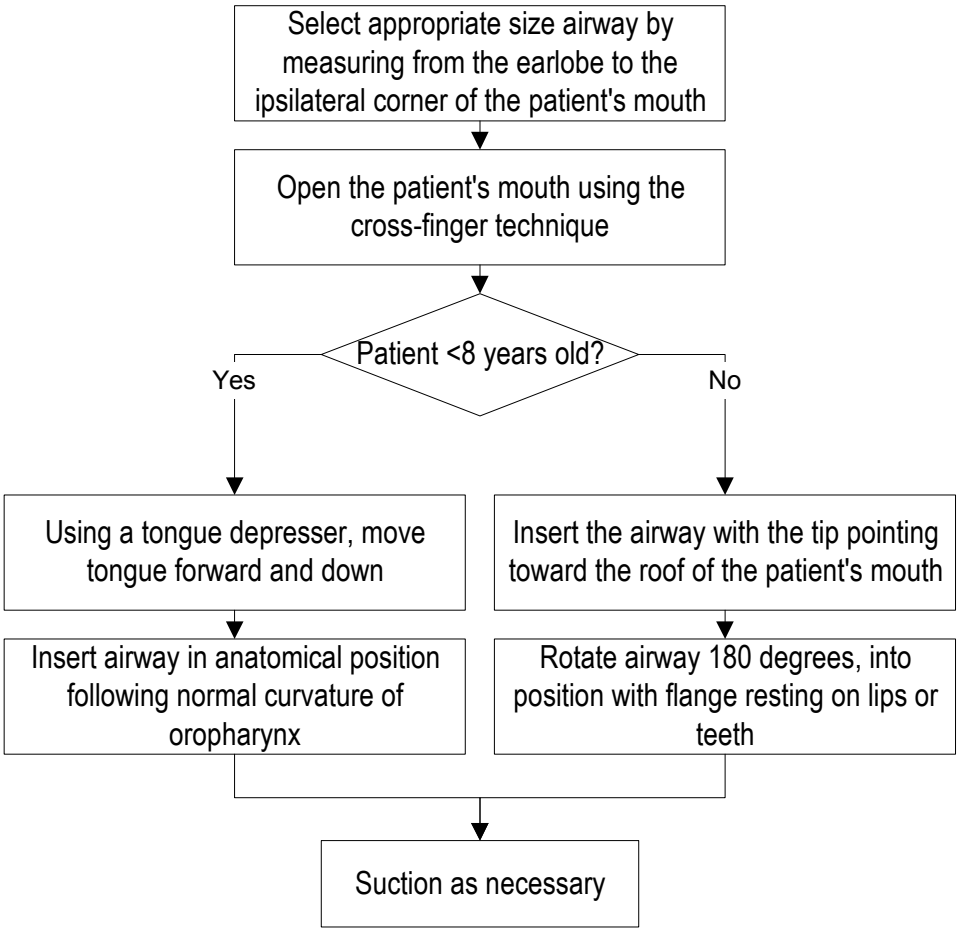


NOTES:

- Limit intubation attempts to 2 attempts per provider with one additional attempt by one additional provider – total of 3 attempts. Assure adequate oxygenation and ventilation between intubation attempts.

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 6/1/06	**PRACTICAL SKILL**	Signature:
Revision: 2	**ORAL AIRWAY INSERTION**	Page 1 of 1

Purpose:		**Indications:**	
To maintain a patent airway by holding the tongue off the posterior pharynx		Unconscious patients without a gag reflex	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Maintains a patent airway Easy to use with minimal training necessary Prevents the patient from biting down on objects in the mouth (e.g. endotracheal tube)	Does not prevent aspiration May stimulate gag reflex	Oral trauma Vomiting with possible aspiration	Any patient with an intact gag reflex

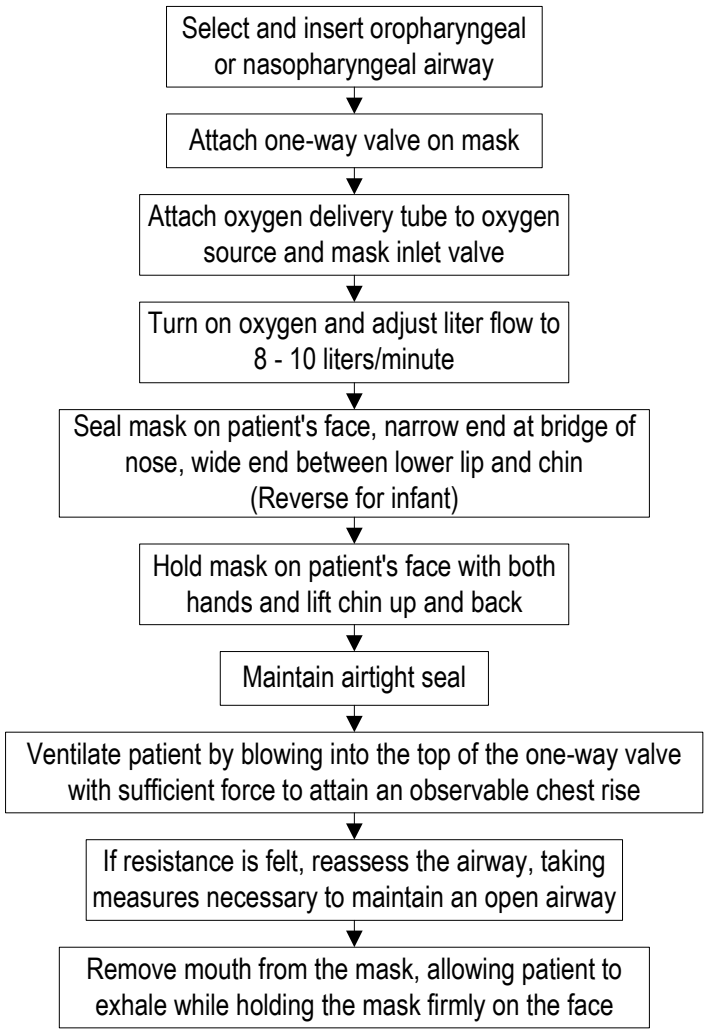


NOTES:

- A tongue blade may be used to insert the airway in anatomical position for the adult patient.
- Use the jaw lift or jaw thrust without head tilt for the patient with a possible cervical spine injury.

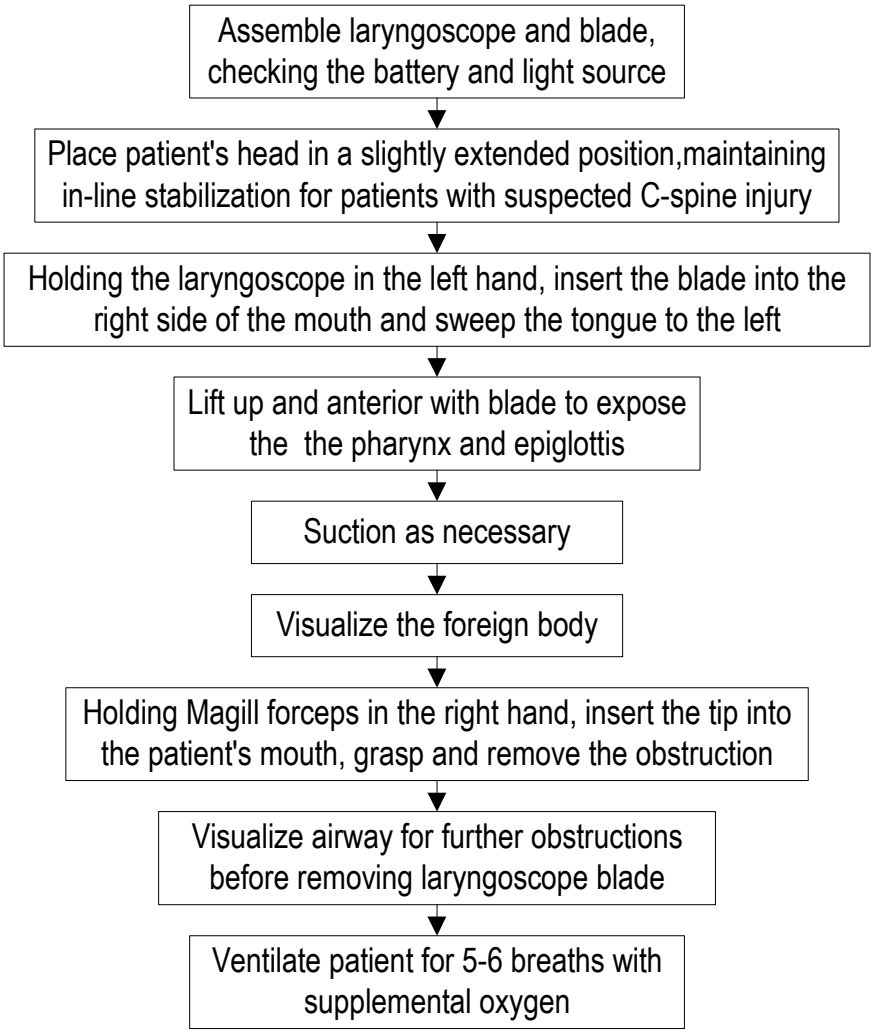
Purpose:	Indications:
To ventilate a patient when a bag-valve-mask is not available To administer supplemental oxygen To reduce exposure to the patient's upper respiratory secretions	Any patient with inadequate or absent respiratory effort

Advantages:	Disadvantages:	Complications:	Contraindications:
Barrier device to provide mouth-to-mouth ventilation without direct contact with secretions Provides supplemental oxygen Easier to obtain face seal by using 2 hands to seal the face mask	Does not prevent aspiration	Gastric distention	Facial or upper airway trauma



Initial: 7/94	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**REMOVAL OF AIRWAY OBSTRUCTION**	Signature:
Revision: 2		Page 1 of 1

Purpose:		**Indications:**	
To remove a foreign body from the upper airway		Patient with an airway obstruction	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Rapid removal of visible obstruction Avoids potential trauma of abdominal thrusts	Requires specialized equipment and training Obstruction must be visible	Oral or airway trauma	Foreign body below the level of the vocal cords

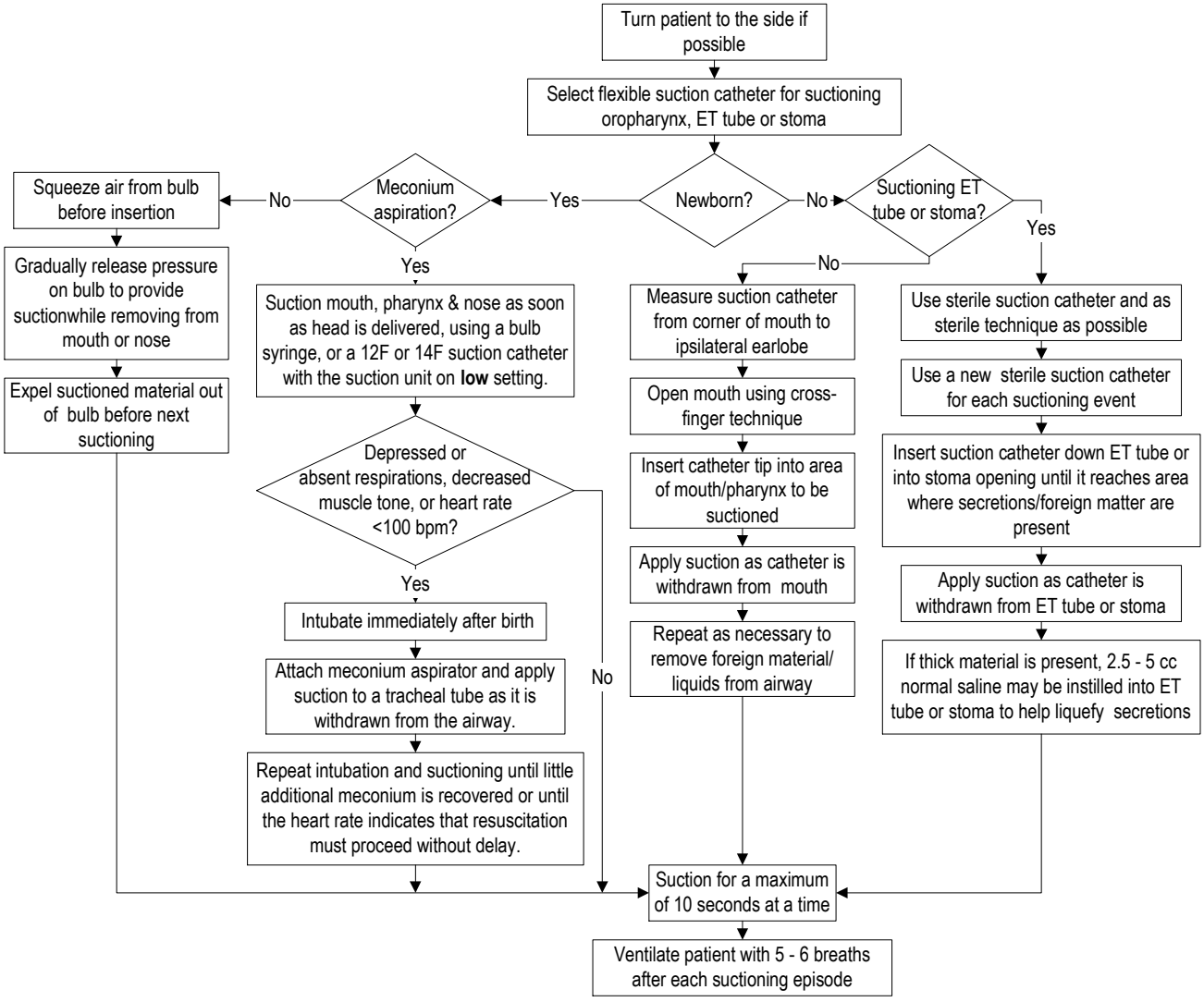


NOTES:

- To prevent damaging the patient's teeth, avoid any leverage on the laryngoscope blade or teeth.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**SUCTIONING**	Signature:
Revision: 4		Page 1 of 1

Purpose:		**Indications:**	
To remove foreign material from the upper airway, endotracheal tube, and Combi-tube		Patient with foreign material in upper airway	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Clears foreign material and liquids from the airway	Removes air May introduce bacteria into the airway	Hypoxia Oral trauma May stimulate vomiting	None



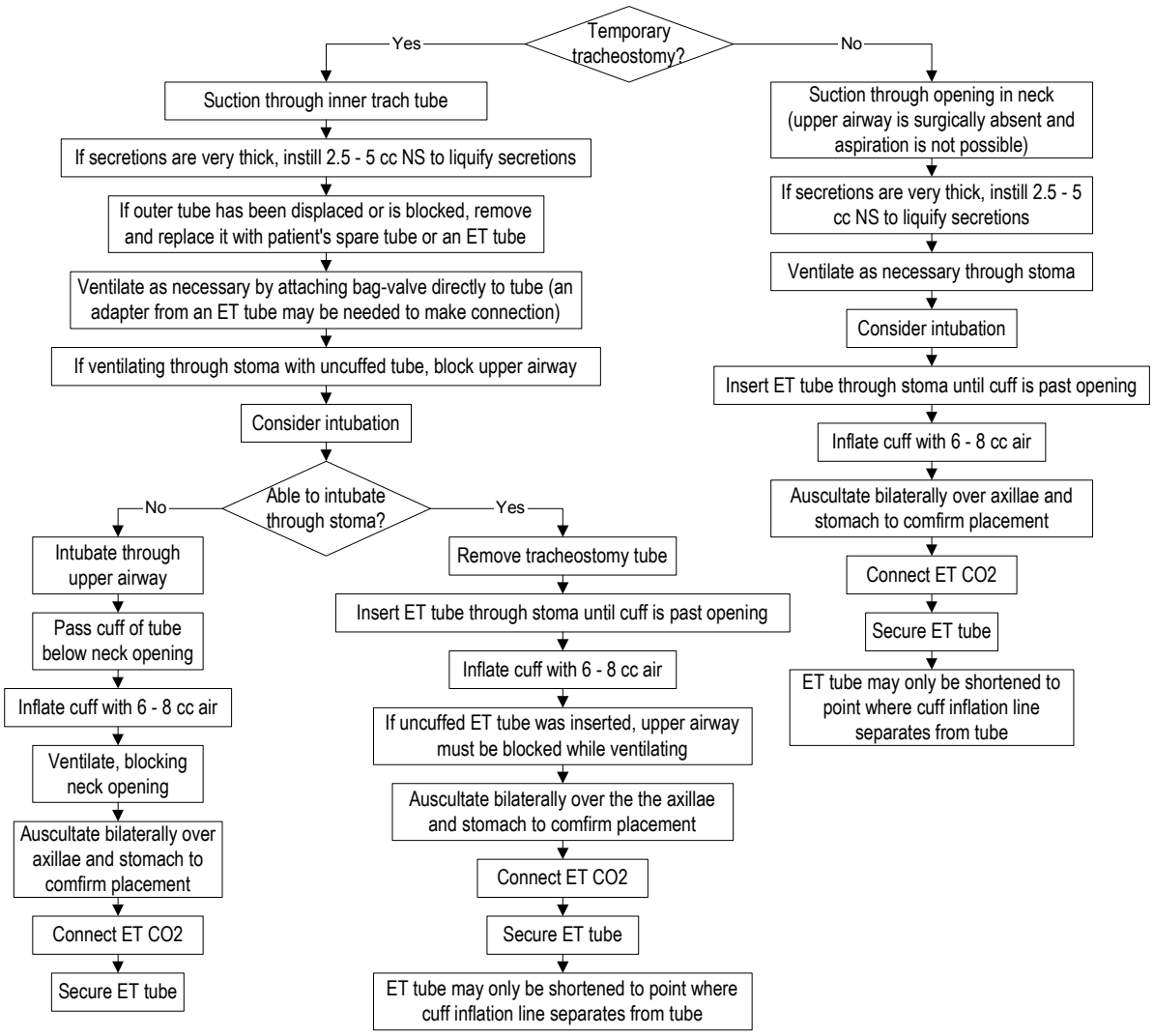
NOTES:

- Suctioning removes air as well as secretions. Ventilate with 5-6 breaths supplemental oxygen after each procedure.
- During suctioning, the ECG monitor (or pulse rate if not on a monitor) should be observed to quickly identify if bradycardia - an indicator of hypoxia - occurs.
- The rigid suction tip can cause airway trauma and is NOT to be used in a moving vehicle.
- Aggressive suctioning of a newborn may cause a vagal bradycardia.
- Use a length based tape to select the appropriate catheter size for suctioning a newborn.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08		Signature:
Revision: 4	**TRACHEOSTOMY CARE**	Page 1 of 1

Purpose:	**Indications:**
To maintain a patent airway and adequate oxygenation of the patient with a temporary or permanent tracheostomy To remove or replace a tracheostomy tube	Patients with temporary or permanent tracheostomies obstructed by secretions Patients unable to replace tracheostomy tubes

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Clears foreign material and liquid from the tracheostomy	Removes air May introduce bacteria into the airway	Hypoxia Airway trauma	None



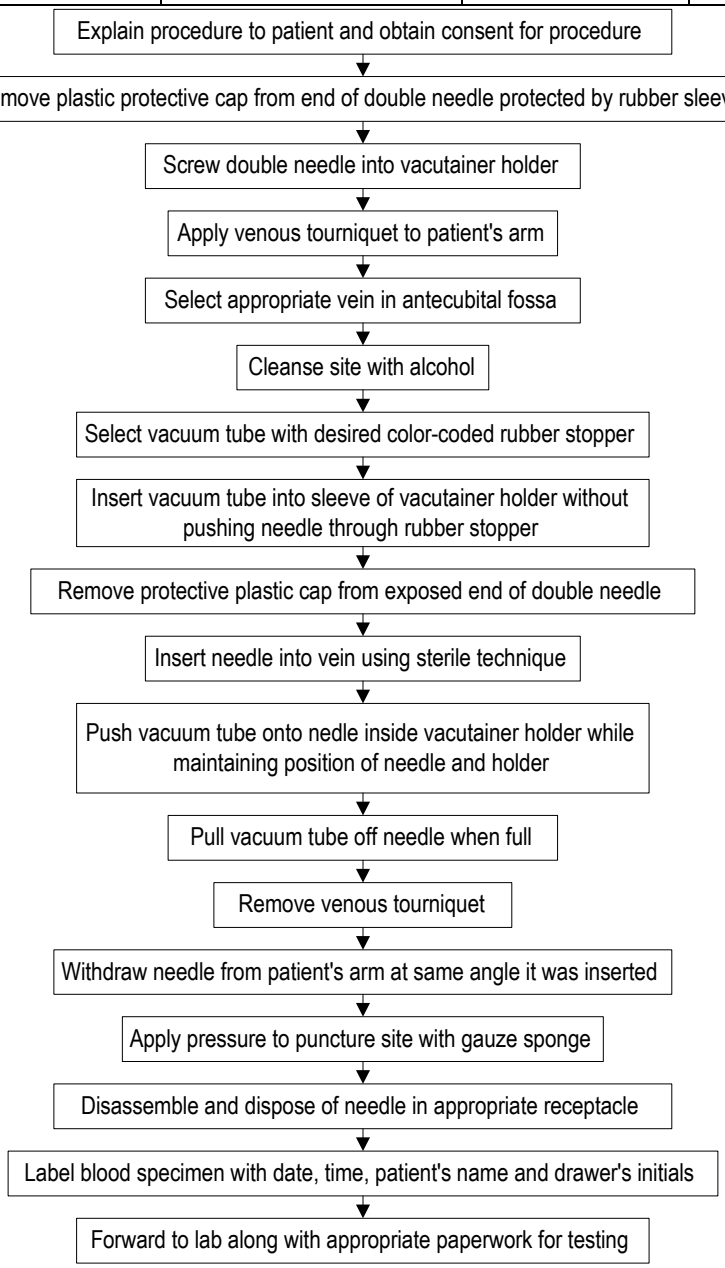
NOTES:

- A temporary tracheostomy bypasses the upper airway. A metal or plastic tube is inserted through the soft tissue of the anterior neck into the trachea and is held in place with ties circling the neck.
- Temporary tubes are rarely cuffed and aspiration is possible from above or from gastric contents.
- A permanent tracheostomy is created when the upper airway structures are surgically removed. A stoma is created in the anterior neck and the trachea surgically attached to the stoma.
- Suctioning removes air as well as secretions. Hyperventilate with 5 – 6 breaths after suctioning.

IV
SKILLS

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**BLOOD DRAW FOR ANALYSIS**	Signature:
Revision: 2		Page 1 of 1

Purpose:		**Indications:**	
To obtain a sample of blood for laboratory analysis		Significant exposure to a member of the emergency medical response team	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Secures the blood sample while the patient is available	Exposure to blood during the procedure	Hematoma Infection	Competent patient refuses Procedure Bleeding disorders



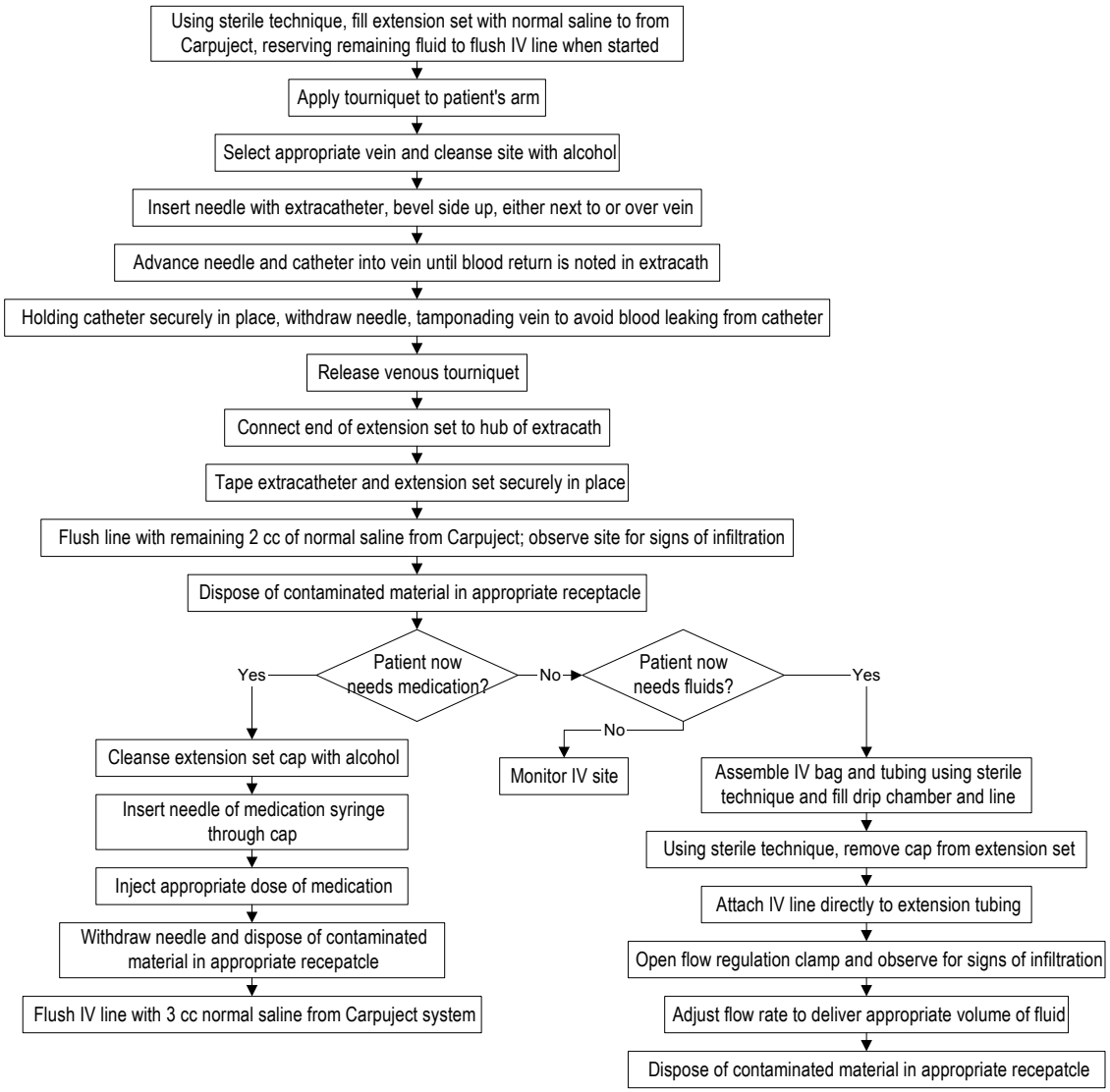
NOTES:

- Some vacutainer needles have an adapter in place of the needle. The adapter attaches to an IV catheter already in place in the vein.

Initial: 5/23/96	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**PRACTICAL SKILL**	Signature:
Revision: 1	**CAPPED IV LINES**	Page 1 of 1

Purpose:	**Indications:**
To provide for a precautionary intravenous access line in patients who do not currently need fluid replacement or intravenous medication administration	For a patient who should have IV access available for safety during transport but the patient does not currently need fluid or medication administration

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Provides route for administration of fluid for volume replacement Provides route for administration of medication	Causes pain during insertion	Infiltration Infection Small clots can form at the end of the catheter and embolize when the line is flushed	Infection in area of the insertion Need for fluid resuscitation

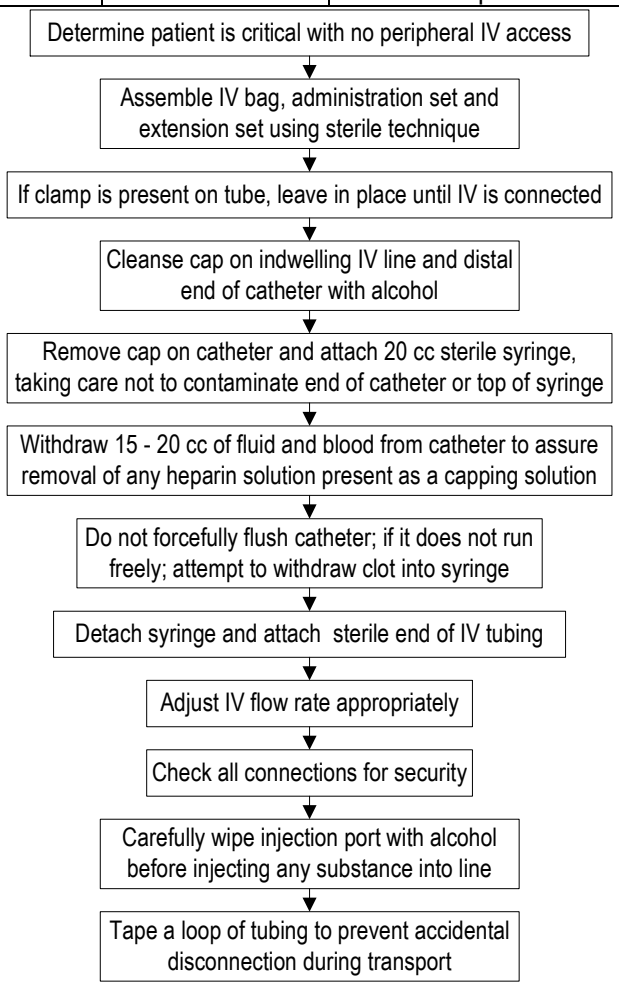


NOTES:

- The vein in the umbilical cord and the external jugular veins may not be used as the site for a capped IV.

INDWELLING INTRAVENOUS LINES

Purpose:		**Indications:**	
To utilize an existing central line for administration of intravenous fluids and medications		May be used in immediate life threatening situations when another site cannot be accessed	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Readily available IV access into central circulation Route for administration of medication and fluids	None	Air embolus Clot formation at end of catheter Heparin overdose if not removed Irritation of heart end of catheter Infection/sepsis	Available peripheral IV site Inability to withdraw fluid from catheter Lack of external catheter site



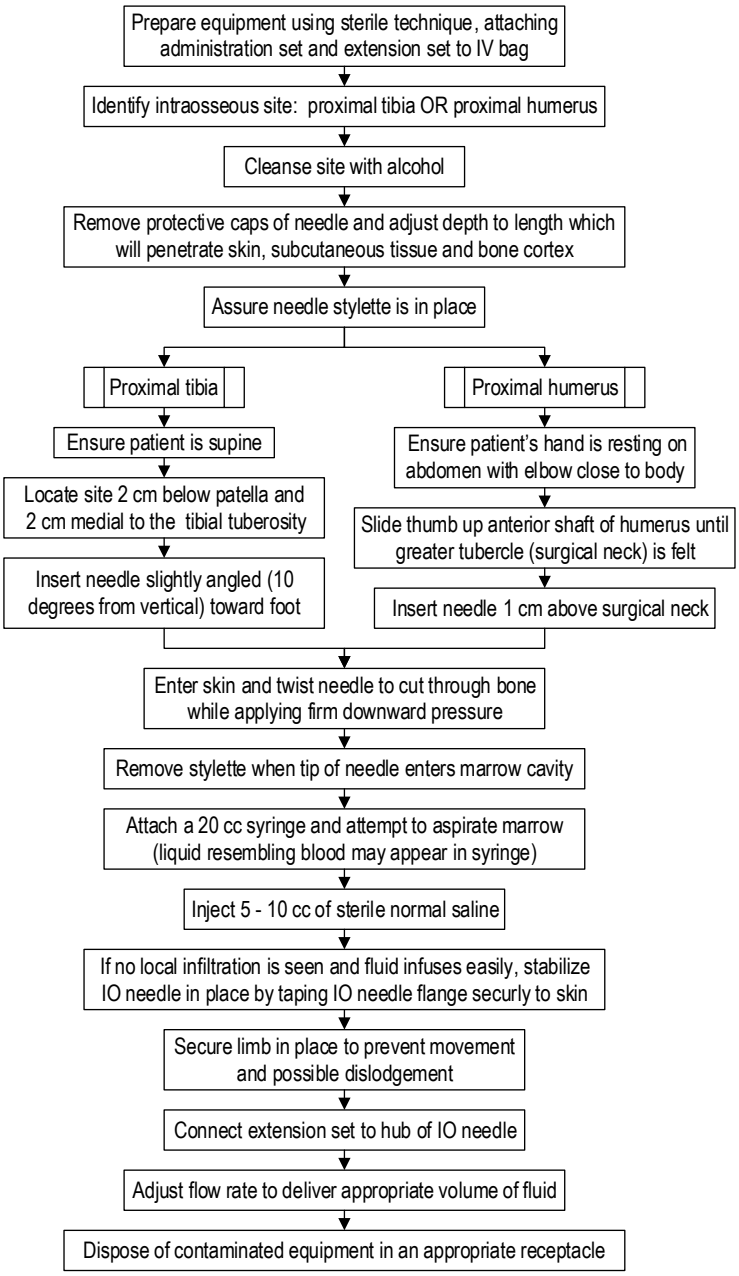
NOTES:

- A dialysis shunt may ONLY be used when the patient is in cardiorespiratory arrest and no peripheral IV site is available. Consider enlisting the expertise of the dialysis nurse, if present.
- Carefully monitor the flow rate of the IV line, as most indwelling catheters have large lumen.
- Air emboli may be drawn in when the patient inhales while the catheter tip is open to the atmosphere.
- Patient may receive a heparin overdose if the solution is not removed prior to starting IV fluid.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Revised: 11/1/14		
Revision: 5	**INTRAOSSEOUS INFUSION**	Page 1 of 1

Purpose:	**Indications:**
To provide access to the bone marrow canal as an alternative to an intravenous line for administration of fluids and medication	An IO line may be established in a patient with signs/symptoms of shock and altered LOC in whom an IV line cannot be established

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Provides route for fluid administration Provides route for medication administration	Requires special equipment and insertion technique	Infiltration Infection Tibial fracture	Leg fracture Infection over site Delay in transport

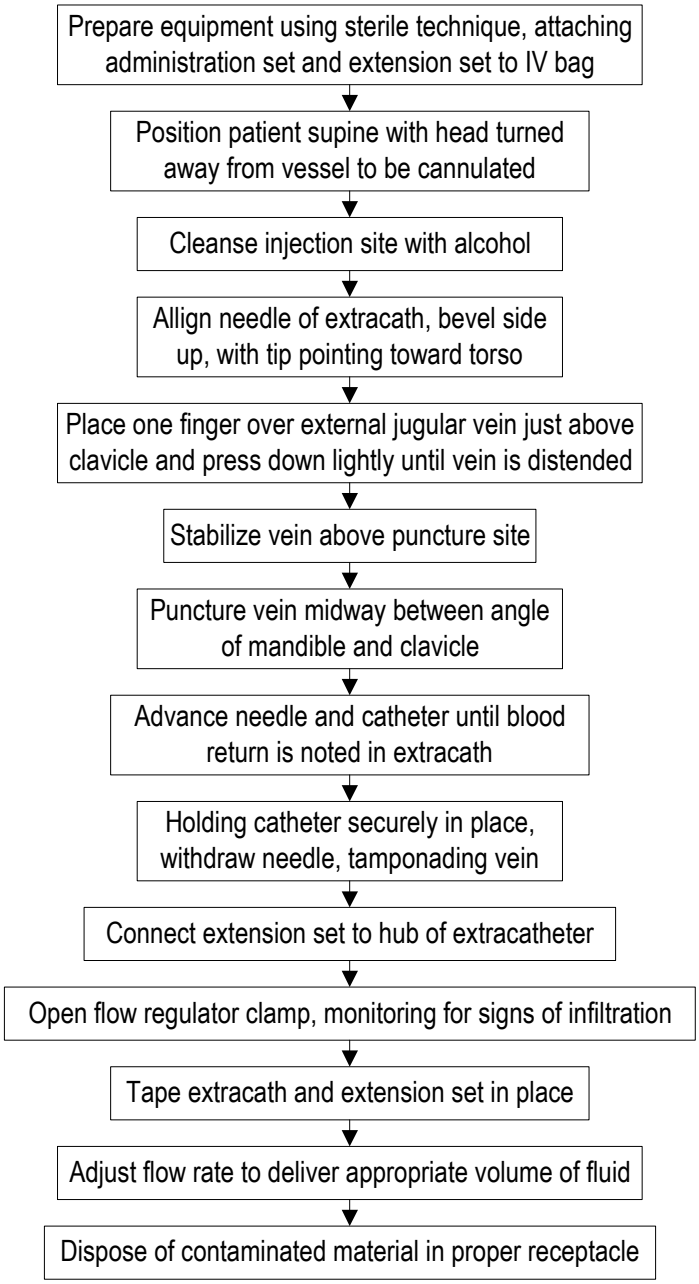


NOTE:

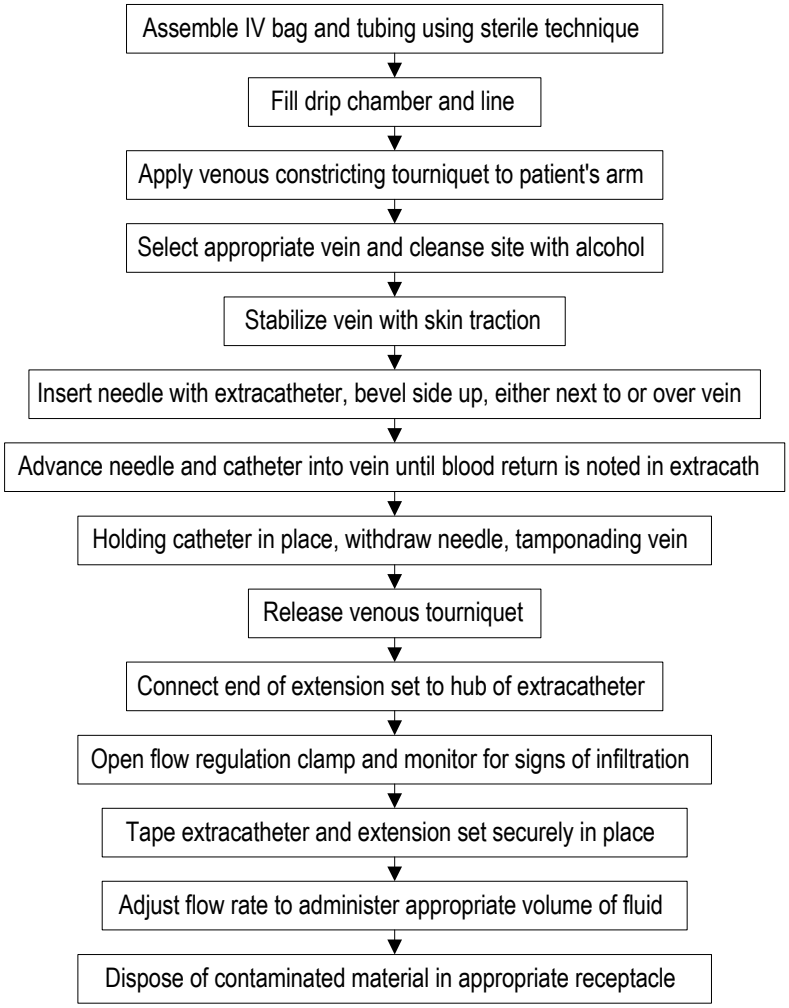
- Monitor carefully for infiltration. Extravasation of some medications can cause tissue sloughing.
- If initial insertion is unsuccessful, do no remove the needle. Secure the needle, leave in place, and attempt insertion on another limb.

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**PRACTICAL SKILL**	Signature:
Revision: 2	**JUGULAR VEIN ACCESS**	Page 1 of 1

Purpose:			**Indications:**
To place an extracatheter into the external jugular vein for administration of fluids or medications when a peripheral site is not available			A critically ill patient who requires IV access with no accessible peripheral site
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Route for fluid administration Route for medication administration	Causes pain during insertion	Infiltration Infection	Obscured landmarks (trauma, subQ emphysema) Cervical collar in place Infection in area of insertion Delay in transport of critical patients



Purpose:			**Indications:**
To provide a route for administration of fluids and medications into the vascular system via a peripheral vein.			An IV may be established in patients who appear acutely ill.
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Provides a route for fluid administration Provides a route for medication administration	Causes pain during insertion	Infiltration Infection	Delay in transporting critical patients Infection at the site of insertion



NOTES:

- Monitor carefully for infiltration. Extravasation of some medications can cause tissue sloughing.
- Peripheral IVs may be difficult to establish in newborns. The vein in the umbilical cord may be used. There are two small-lumen arteries and one large-lumen vein in the umbilical cord. The insertion point of the extracatheter should be proximal to the cord clamp (between the cord clamp and the infant's abdominal wall).

MEDICATION ADMINISTRATION SKILLS

Purpose:		**Indications:**	
To deliver medication to the alveoli of the lung for rapid absorption by the capillaries		Critically ill patient who is intubated but IV access is not available	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Delivers medications rapidly to the circulatory system for distribution throughout the body Can be done without IV access	ET must be in place Epinephrine and atropine dosages must be doubled Some of medication will adhere to the walls of the ET tube Not all medication may be administered via ETT Must stop CPR and ventilation to administer	Potential damage to lung tissue by the medication	Medication not approved for ET administration

Ascertain allergy history of patient

↓

Intubate patient orally or nasally

↓

Attach right angle swivel connector with medication port to top of ET tube if desired

↓

Ventilate patient

↓

Confirm dosage, type, and route of administration of medication

↓

Prepare medication for administration

↓

Using sterile technique, draw up 10 cc normal saline into the 20 cc syringe

↓

Stop ventilation and chest compressions if in progress

↓

Open medication port on swivel connector or disconnect bag-valve device

↓

Inject medication into ET tube:
If volume of medication is < 5 cc follow with a 5 cc flush of normal saline;
If volume of medication is ≥ 5 cc, no flush is necessary

↓

Close medication port or reconnect bag-valve device and slowly compress bag-valve device (over a 2 second period) 5 times, then continue to ventilate

↓

Dispose of contaminated material in appropriate receptacle

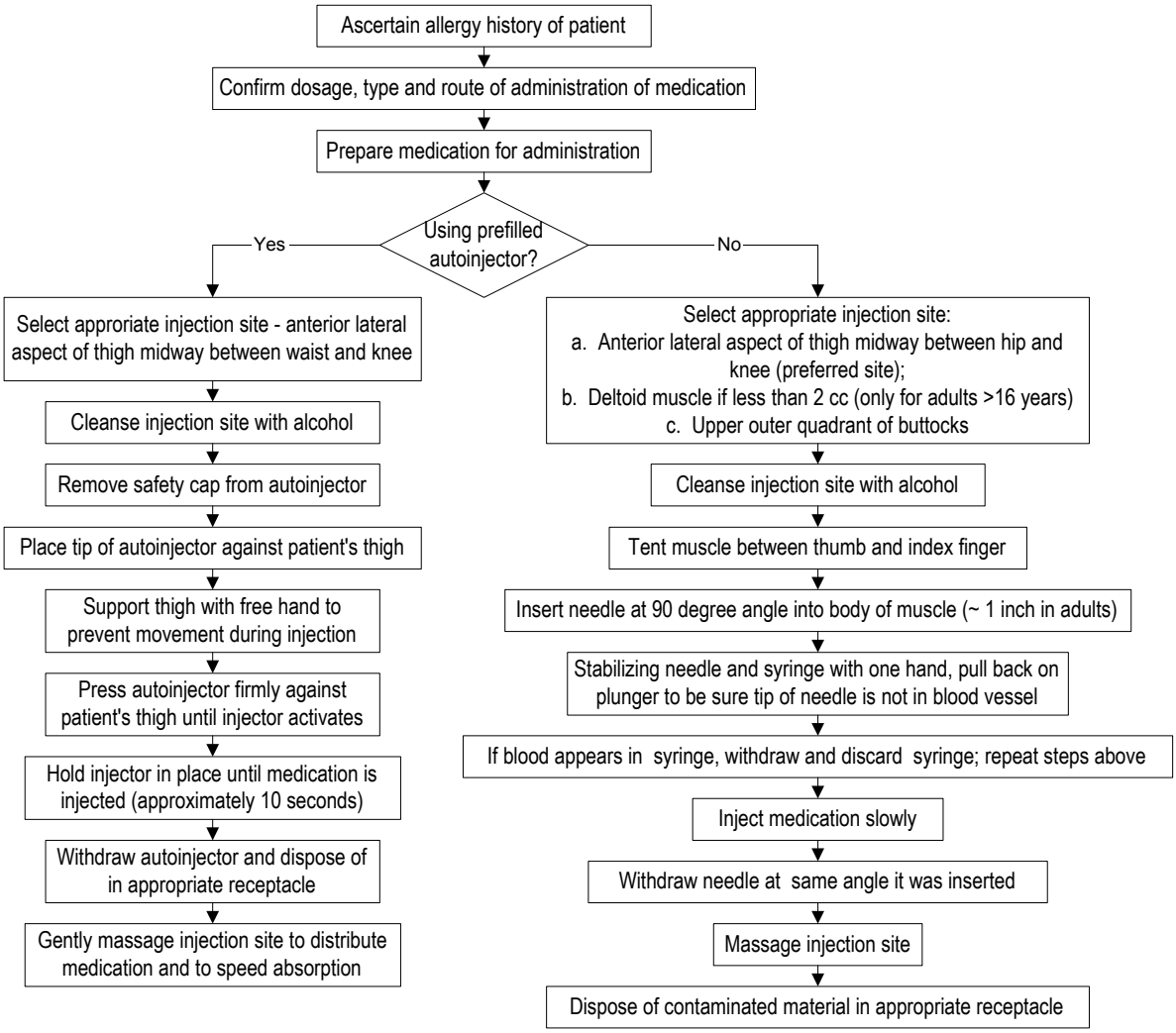
NOTES:

- Medications approved for ET administration:
  - Naloxone, atropine, epinephrine, lidocaine.

ADMINISTRATION OF MEDICATIONS

Purpose:	Indications:
To deliver medication to the muscle tissue for absorption by blood vessels	For a patient who needs medication that may be administered via intramuscular route

Advantages:	Disadvantages:	Complications:	Contraindications:
Delivers medication slowly to the circulatory system for distribution throughout the body Effects sustained for a period of time Does not require IV access	Pain at injection site Only small volumes (2 - 5 cc) should be given by this route Cannot give tissue-irritating medication by this route	Infection Accidental IV injection if tip of needle is in vein	Infection in area of injection



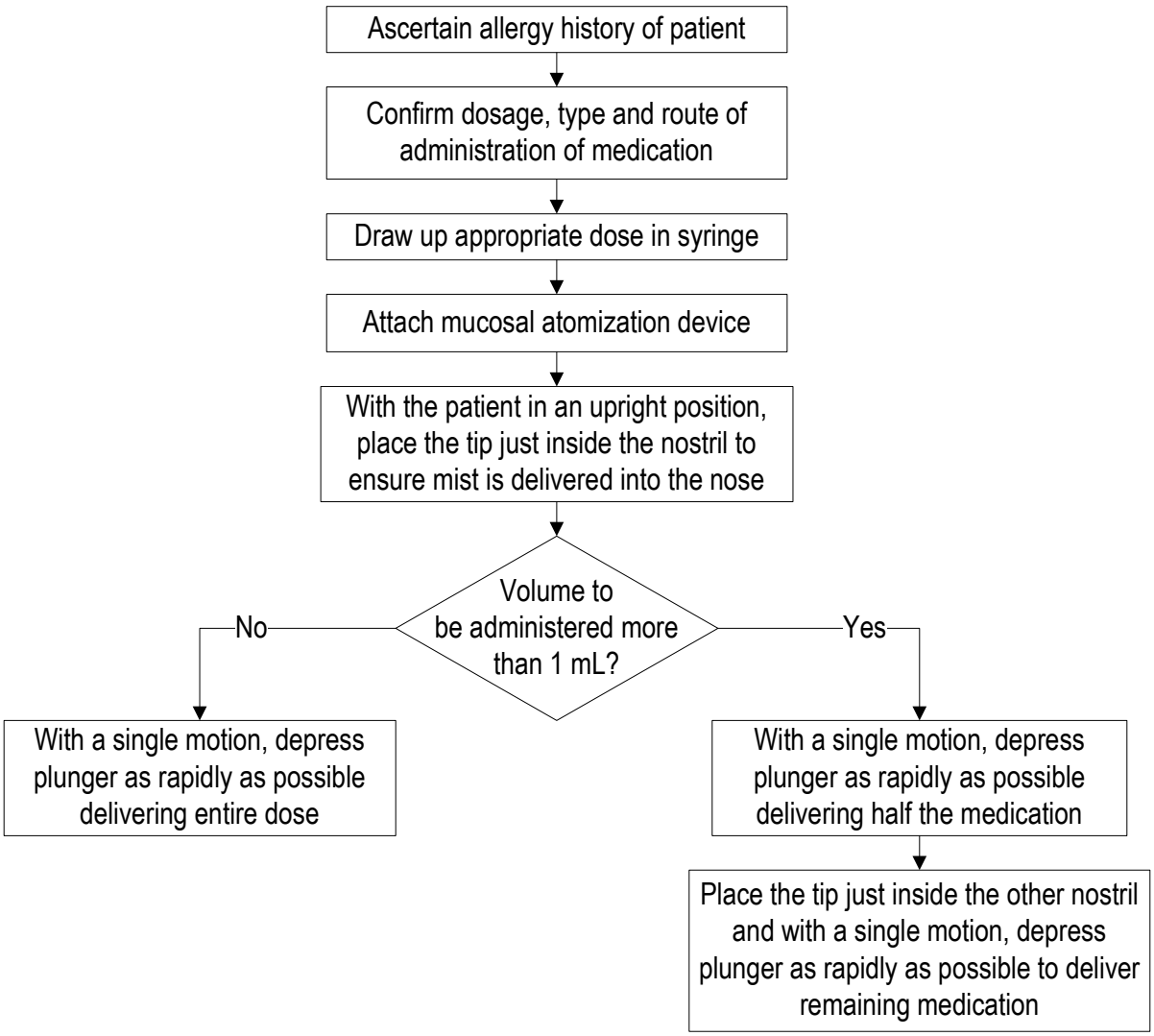
NOTES:

- The deltoid muscle should not be used as an injection site for patients less than 16 years old.
- No more than 2 cc of medication should be injected via intramuscular route.
- Absorption may be delayed in poor perfusion state. For an anaphylactic patient, consider IV/IO route if patient is in shock and does not rapidly improve with IM epinephrine.

Initial: 2/17/10	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**PRACTICAL SKILL**	Signature:
Revision:	**INTRANASAL**	Page 1 of 1

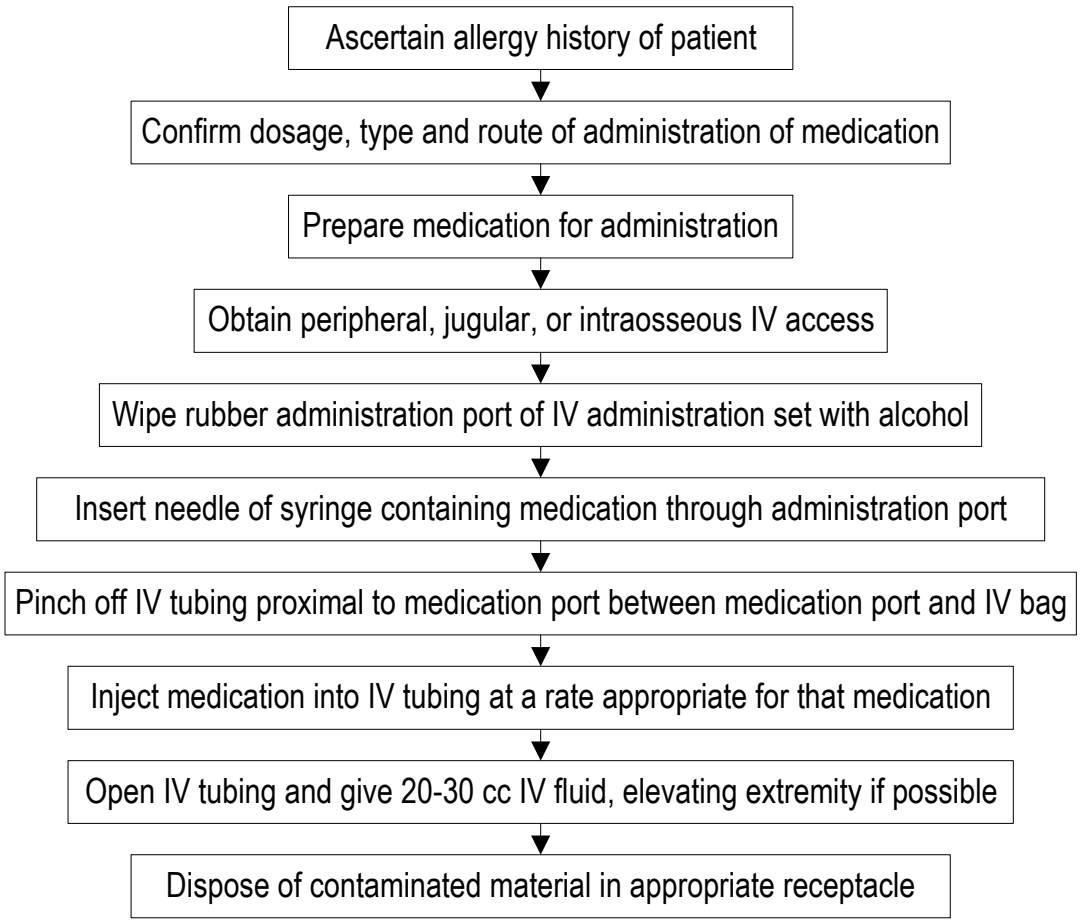
ADMINISTRATION OF MEDICATIONS

Purpose:	**Indications:**		
To deliver a dose of intranasal medication for absorption	For a patient who needs medication that may be administered via intranasal route		
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Intranasal route is needleless	Variable absorption Exposure to body fluids Limited dosing – only ½ to 1 mL / nostril	Nasal congestion Nosebleed	Uncooperative patient Nosebleed Extreme nasal congestion



Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**INTRAVENOUS BOLUS OF MEDICATION**	Signature:
Revision: 2		Page 1 of 1

Purpose:		**Indications:**	
To deliver medication directly into the blood stream for rapid distribution to the rest of the body		Patients with IV access who need medication administration	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Delivers medication rapidly to the circulatory system for distribution throughout the body	Must have IV access	Irritation to the vein by medication injected Extravasation of medication into subQ tissue if IV infiltrates	Infiltration of IV line Injury to the venous system proximal to the injection site

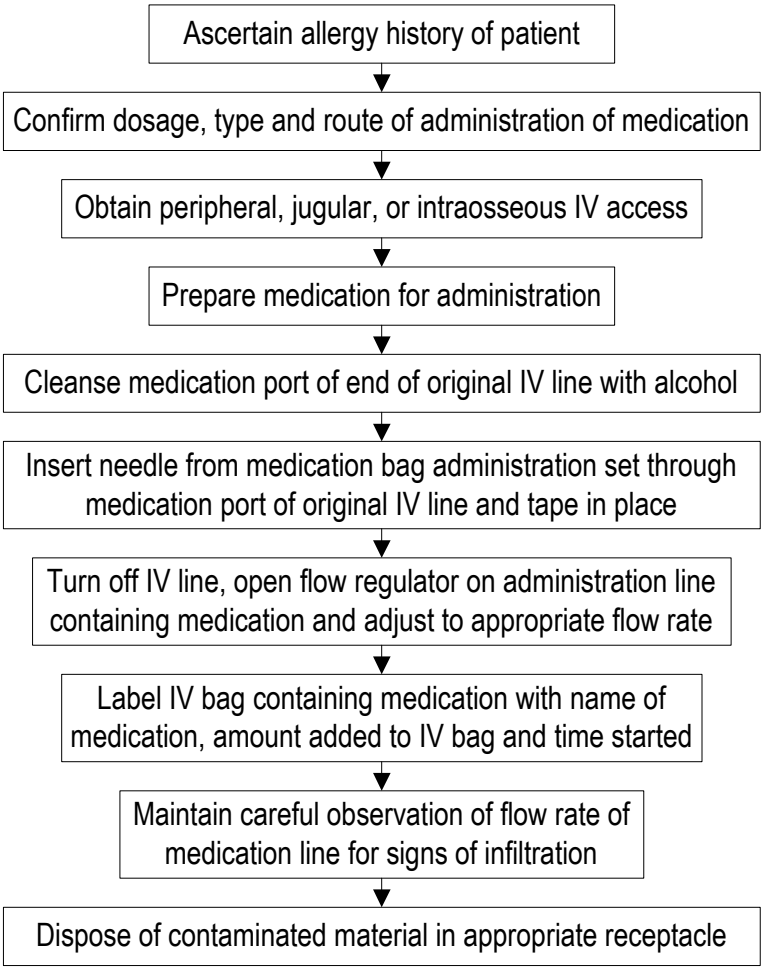


Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/14/01	**PRACTICAL SKILL**	Signature:
Revision: 3	**INTRAVENOUS DRIP**	Page 1 of 1

ADMINISTRATION OF MEDICATION

Purpose:	**Indications:**
To maintain therapeutic blood levels of a medication over a period of time	Patients with IV access who need to maintain therapeutic blood levels of a medication

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Delivers medications constantly and continuously to the circulatory system for distribution throughout the body Maintains a relatively constant blood level of medication	Must have IV access Line must be monitored to assure constant rate of administration	Vein irritation by medication injected Extravasation of medication if IV infiltrates	Infiltrated IV line Injury to the venous system proximal to the injection site

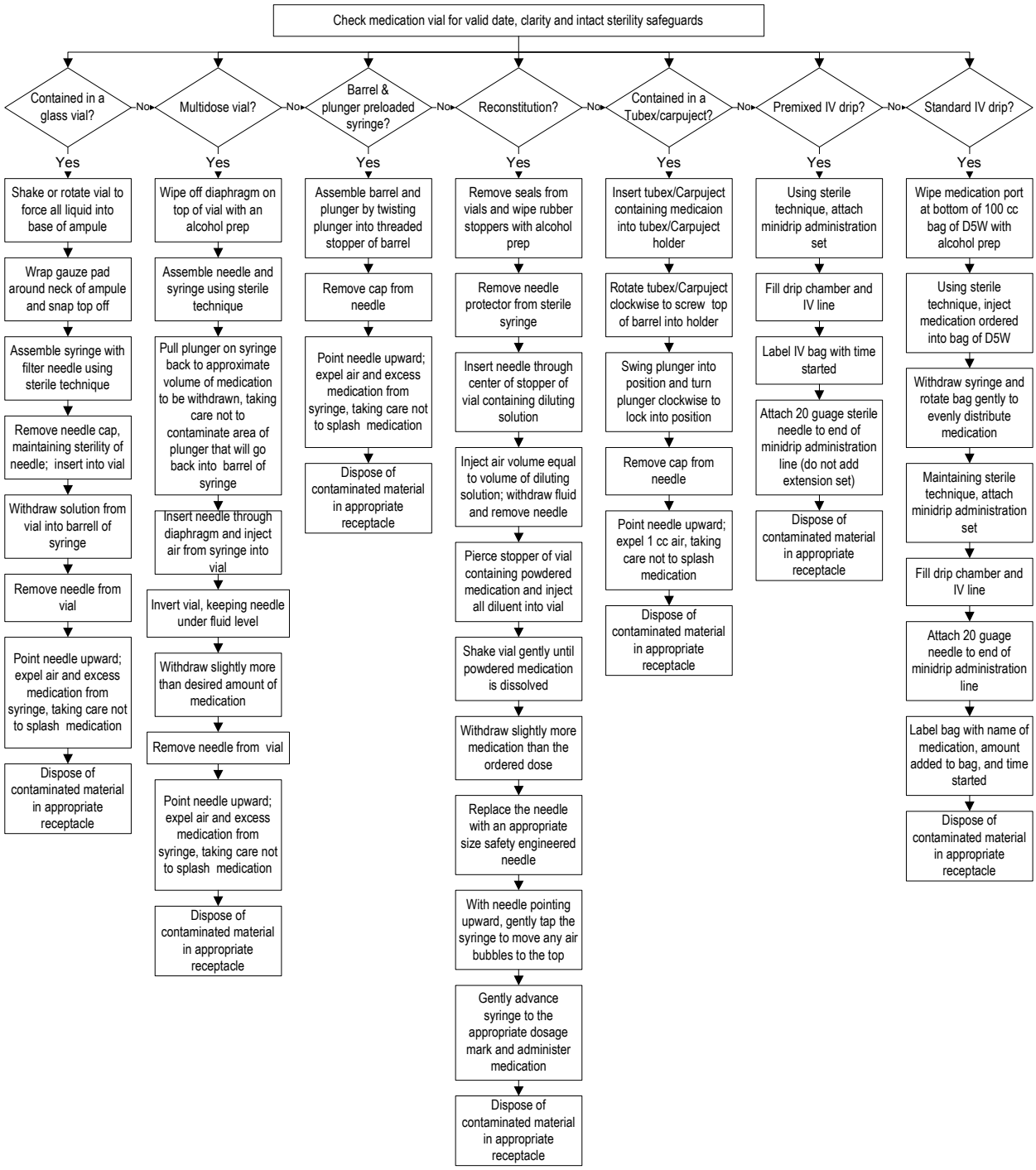


NOTES:

- Medications approved for IV drip:
  - Amiodarone, dopamine, lidocaine, sodium bicarbonate.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 9/7/11	**MEDICATION PREPARATION**	Signature:
Revision: 4	**FOR ADMINISTRATION**	Page 1 of 1

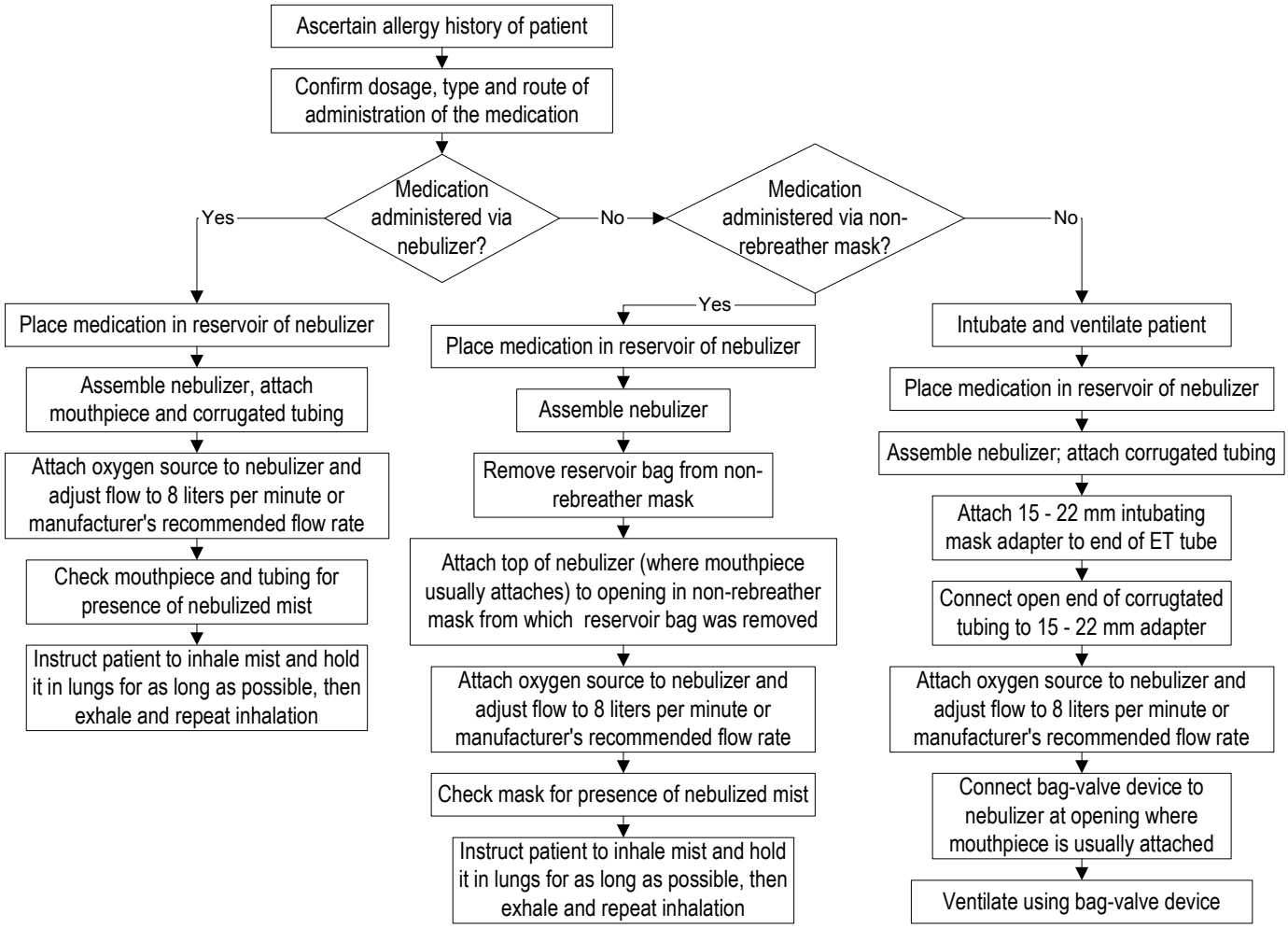
Purpose:		**Indications:**	
To prepare medication contained in a unit-dose syringe, glass vial, or multidose vial for administration		Any patient who needs medication administered	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Medication can assist in prehospital treatment and stabilization of life-threatening conditions	When given incorrectly or in the wrong dose, patient may be harmed		Known allergy to the medication



Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**NEBULIZED ADMINISTRATION OF MEDICATION**	Signature:
Revision: 5		Page 1 of 1

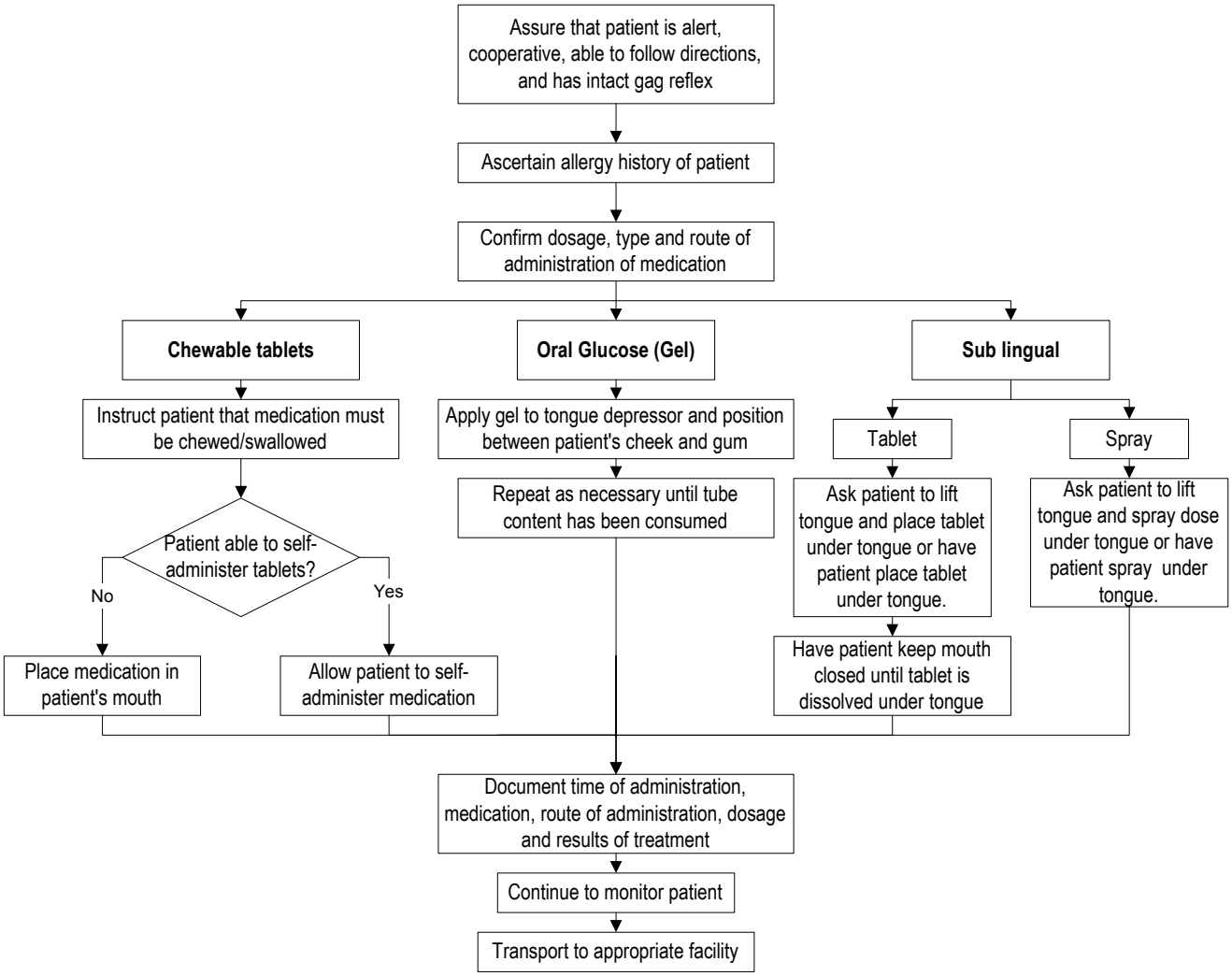
Purpose:	**Indications:**
To aerosolize a medication and deliver it into the pulmonary system for absorption by the capillaries	Patients experiencing bronchospasm

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Delivers medications rapidly to the circulatory system in the lungs Does not require IV access	Patients in severe distress may not be able to follow directions or inhale a high enough tidal volume to receive sufficient medication to treat their condition Very few medications can be given this way	Tachyarrhythmia Ventricular ectopic beats	None

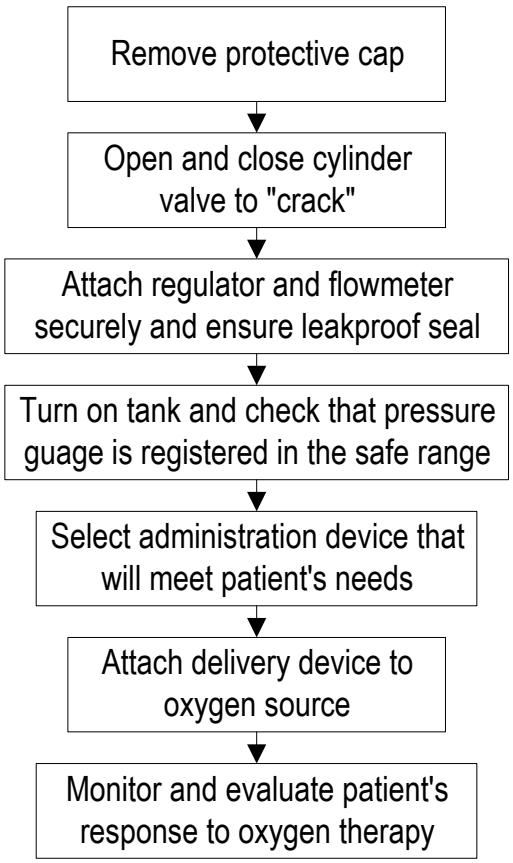


Initial: 12/6/00	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**ORAL ADMINISTRATION OF MEDICATION**	Signature:
Revision:		Page 1 of 1

Purpose:		**Indications:**	
To administer medication through the digestive tract.		Patient who is alert, cooperative, and is able to protect own airway and swallow the medication.	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Can be done without IV access.	Patient may vomit prior to absorption of the therapeutic dose.	Medication may cause stomach upset and/or vomiting.	Patient uncooperative, unable to follow directions, or lack of gag reflex.



Purpose:		**Indications:**	
To increase the partial pressure of oxygen in the lungs, providing additional oxygen to the tissues of the body		Patient showing signs of hypoxia	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Increases oxygen availability to the tissue Minimizes effects of hypoxia and anaerobic metabolism on the cells	Oxygen is stored under pressure Increases risk of fire when in use	May suppresses respiratory drive of a patient with COPD	None in prehospital care

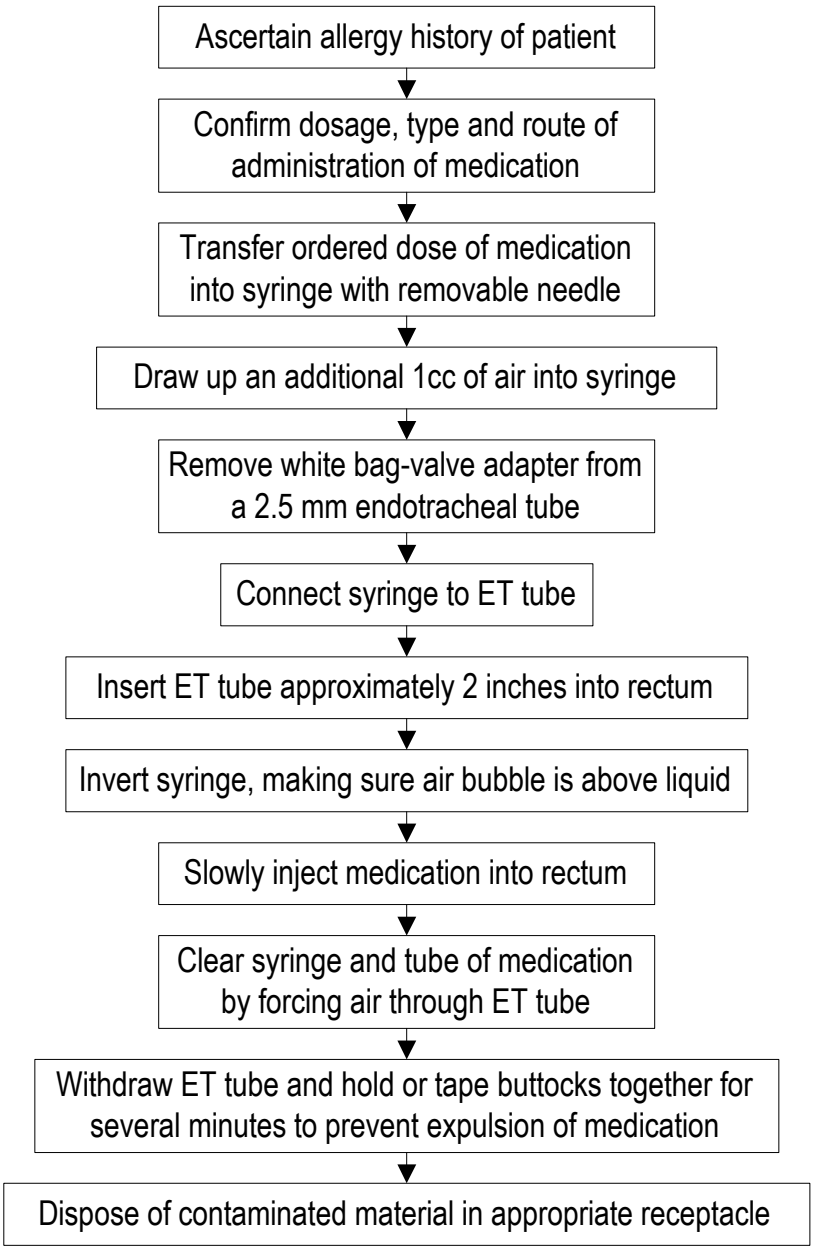


NOTES:

- The nasal cannula delivers 25% - 40% oxygen content at 1 - 6 liters/minute flow.
- The non-rebreather face mask delivers > 90% at 12 liters/minute flow.
- The bag-valve device delivers nearly 100% oxygen content when used with the oxygen reservoir attachment and maximum (15+ liters/min) flow.
- The nebulizer chamber for aerosol medications is run at 8 liters/minute or at manufacturer's recommended flow rate.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**RECTAL ADMINISTRATION OF MEDICATION**	Signature:
Revision: 4		Page 1 of 1

Purpose:		**Indications:**	
To provide a route of administration of selected medications in patients with no IV access		Actively seizing patient with no IV access	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Delivers medications when no IV access is available Effects sustained over a period of time	Uncertain absorption rate Uncertainty of medication retention	Trauma to rectal mucosa	Rectal bleeding Diarrhea Any known rectal abnormality

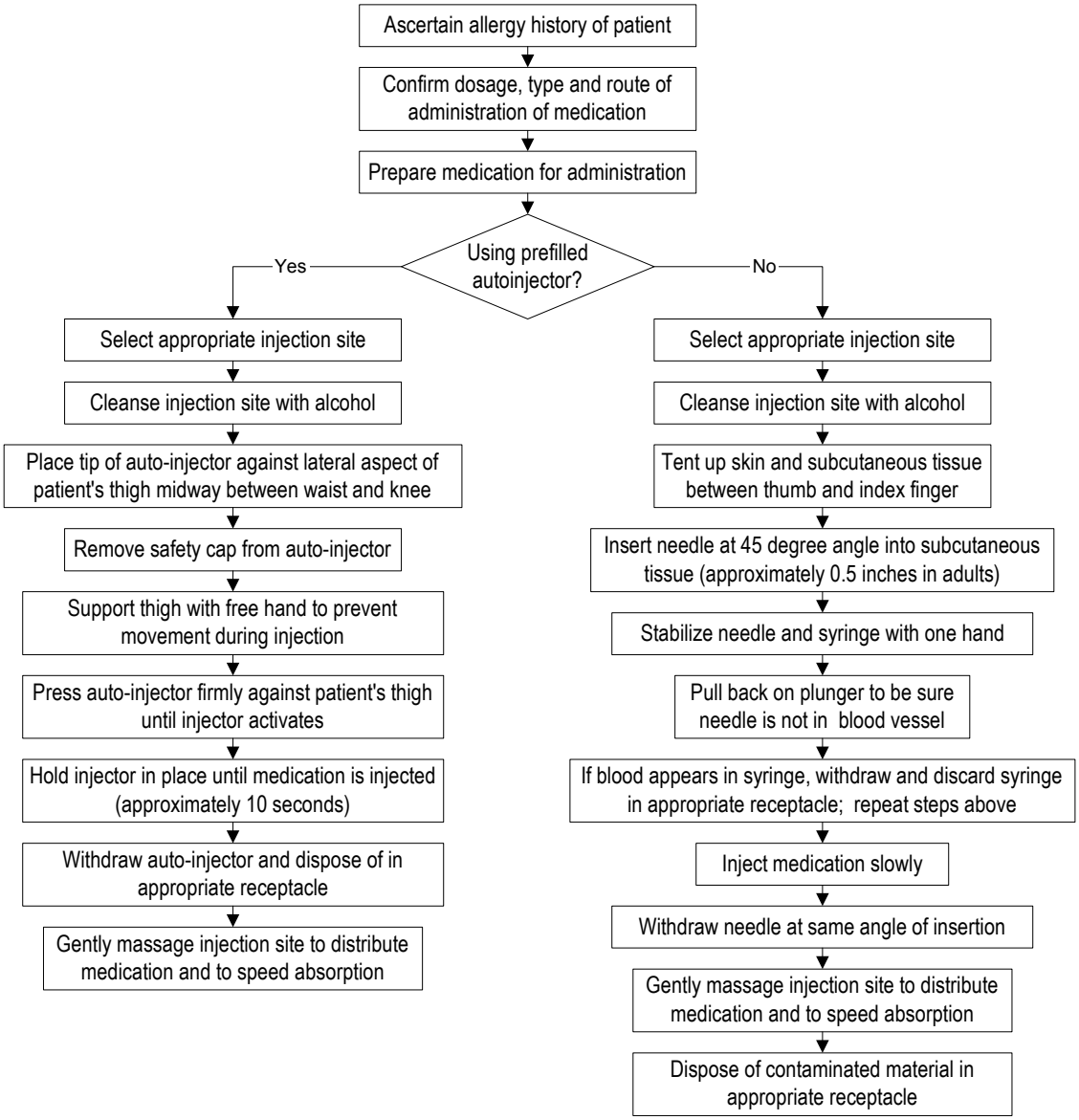


Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/16/11	**PRACTICAL SKILL**	Signature:
Revision: 3	**SUBCUTANEOUS**	Page 1 of 1

ADMINISTRATION OF MEDICATION

Purpose:	**Indications:**
To deliver medication to the subcutaneous tissue for absorption by blood vessels	Anaphylaxis Severe respiratory distress due to bronchospasm

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Delivers medication slowly for distribution throughout the body Effects sustained over a period of time Does not require IV access	Pain Only 0.5 ml of medication may be administered subQ Cannot give tissue-irritating medication subQ	Infection Accidental IV injection if needle tip is in vein	Infection at injection site



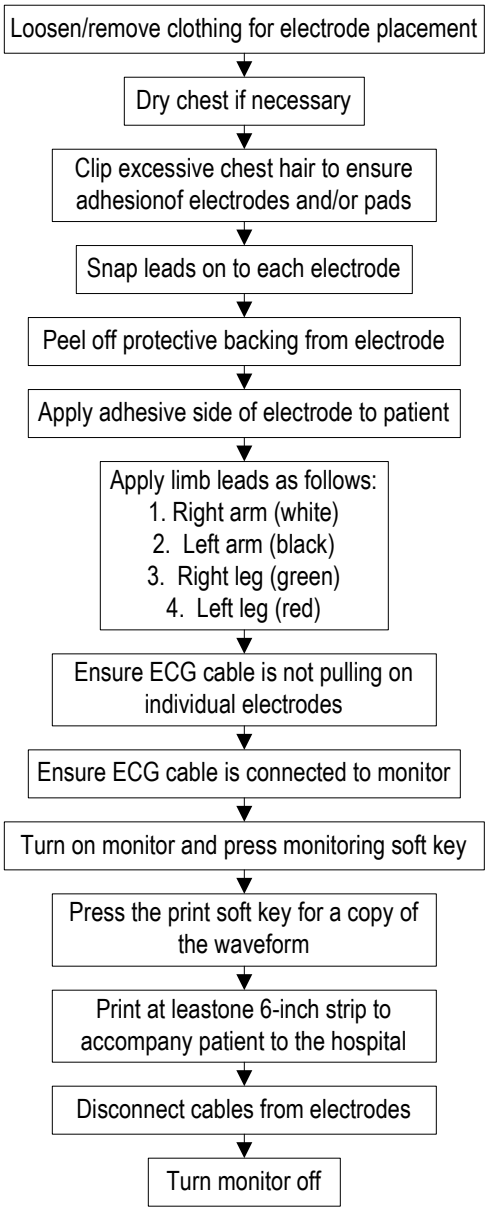
NOTES:

- Hypotension is a usually a contraindication for subcutaneous injections due to the lack of peripheral circulation to pick up medication.

ECG
SKILLS

Initial: 9/11/02	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 8/1/13	**4-LEAD ELECTROCARDIOGRAM**	
Revision: 3		Page 1 of 1

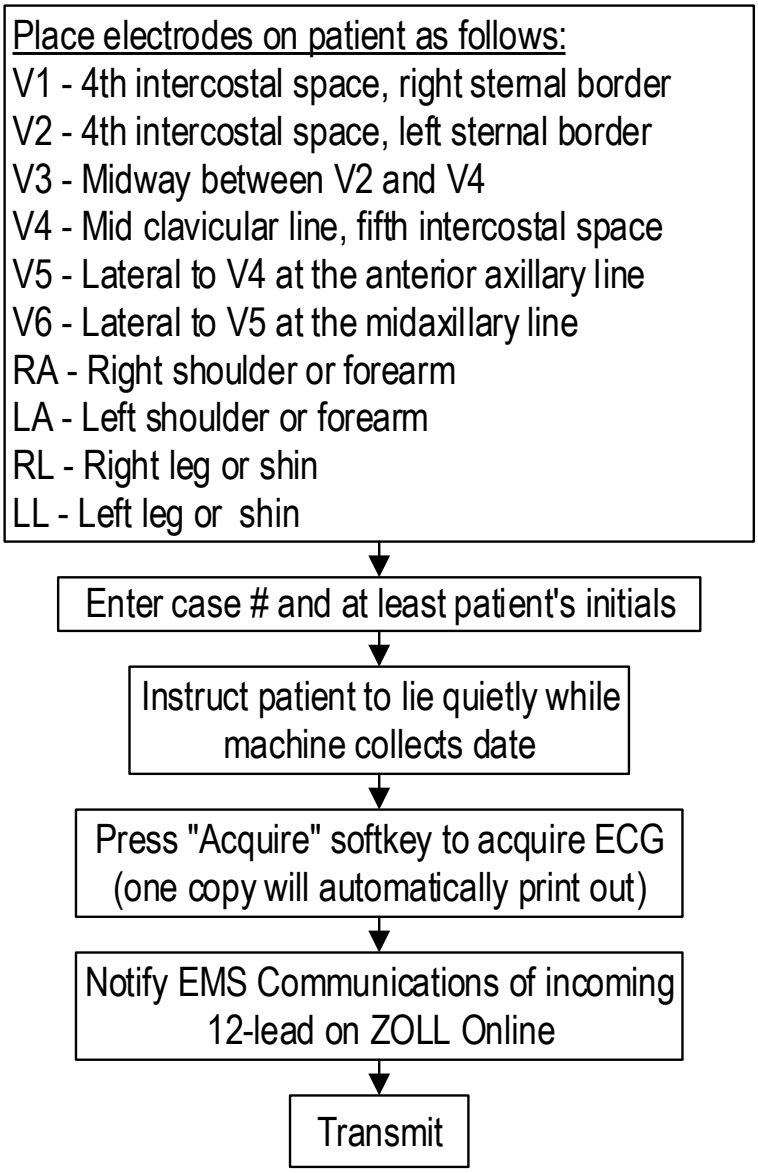
Purpose:			**Indications:**
To monitor heart for arrhythmias and obtain/transmit an electrocardiogram			Any patient who requires cardiac monitoring
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Displays cardiac electrical activity and heart rate value.	None	None	None



NOTES:

- Lead II is the standard lead used to monitor the patient's ECG; the monitor defaults to Lead II.
- A six-inch or longer strip will accompany the patient to the hospital.
- In cases where the strip is run to record a rhythm change, a copy should be left with the patient at the receiving emergency department.

Purpose:	**Indications:**		
To obtain and transmit a diagnostic quality 12-lead electrocardiogram	Any patient experiencing symptoms of possible cardiac origin		
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Provides electrical view of all areas of the myocardium; Enables receiving hospital notification of STEMI arrival	None	None	None



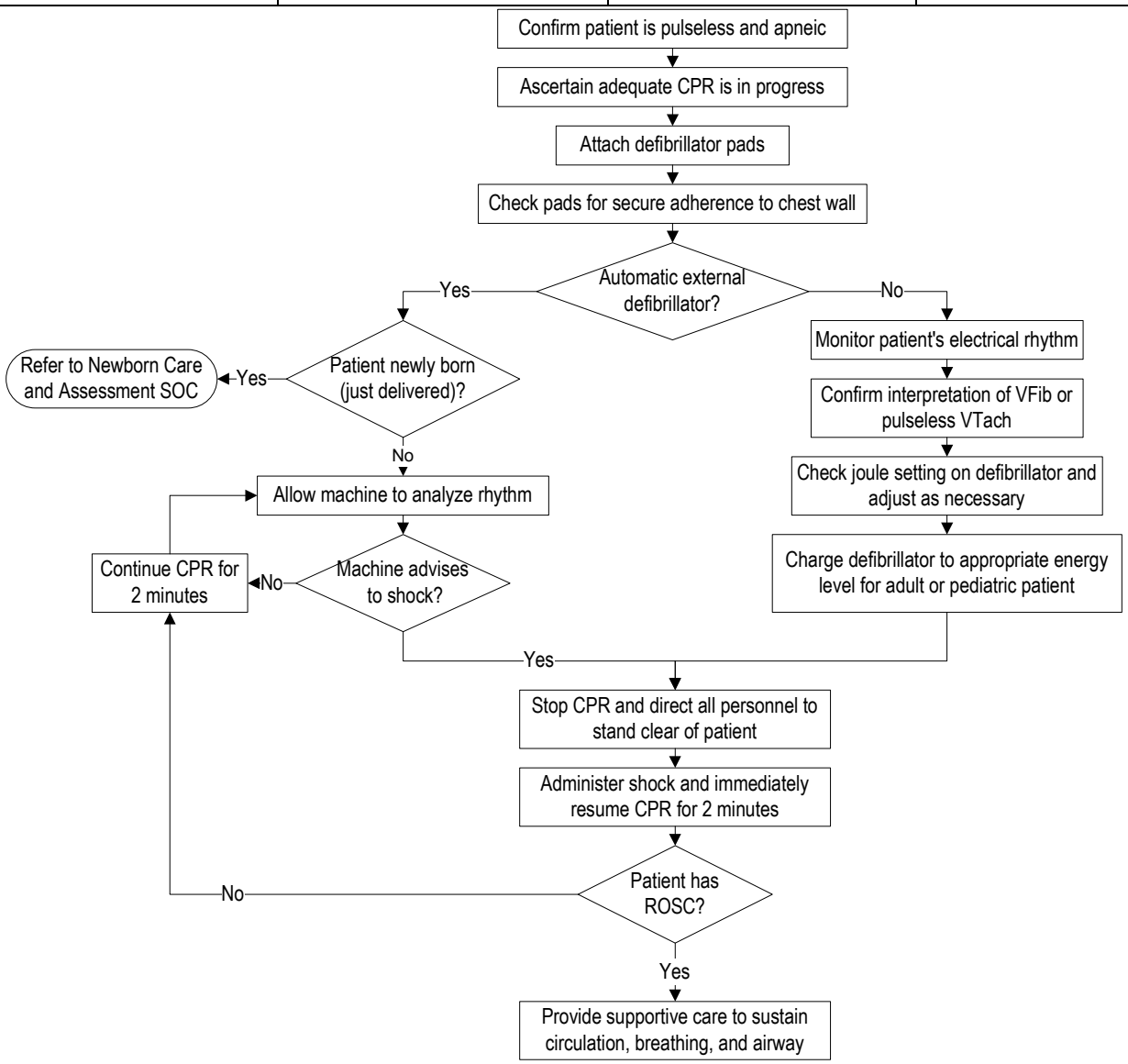
NOTES:

- Obtain the 12 lead at the earliest opportunity; goal is within 10 minutes.

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 2/23/13	**PRACTICAL SKILL**	Signature:
Revision: 7	**DEFIBRILLATION**	Page 1 of 1

Purpose:	**Indications:**
To simultaneously depolarize the myocardial cells to terminate ventricular fibrillation or ventricular tachycardia	Patient presents pulseless and apneic in ventricular fibrillation or ventricular tachycardia

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Termination of Vfib or Vtach in the pulseless, apneic patient	Electrical current causes some injury to myocardium	Poor interface between chest wall and pads can cause burns	Any patient with pulses Valid DNR orders Conditions incompatible with life

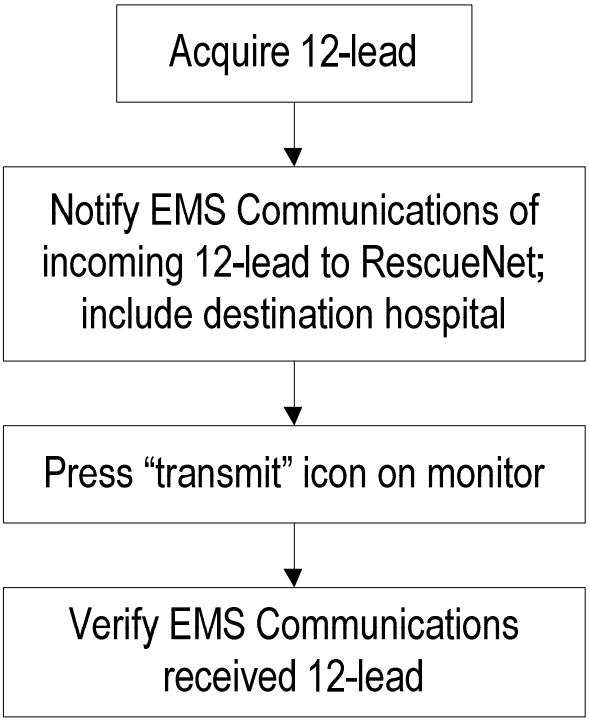


NOTES:

- Do not apply defibrillator pads over a pacemaker or automatic implanted cardiac defibrillator (AICD).
- Remove Nitropatch or Nitropaste before attaching defibrillator pads.
- Do not defibrillate when conditions exist for electrical conductivity (wet environment, etc.).

Initial: 2/13/08	**MILWAUKEE COUNTY EMS**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 8/1/13	**PRACTICAL SKILL**	Signature:
Revision: 2	**ECG TRANSMISSION**	Page 1 of 1

Purpose:	**Indications:**		
To transmit 12-lead electrocardiograms	Any patient who requires cardiac monitoring		
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Transmits ECG to medical control and enables faxing 12-lead ECG to receiving hospital	None	None	None

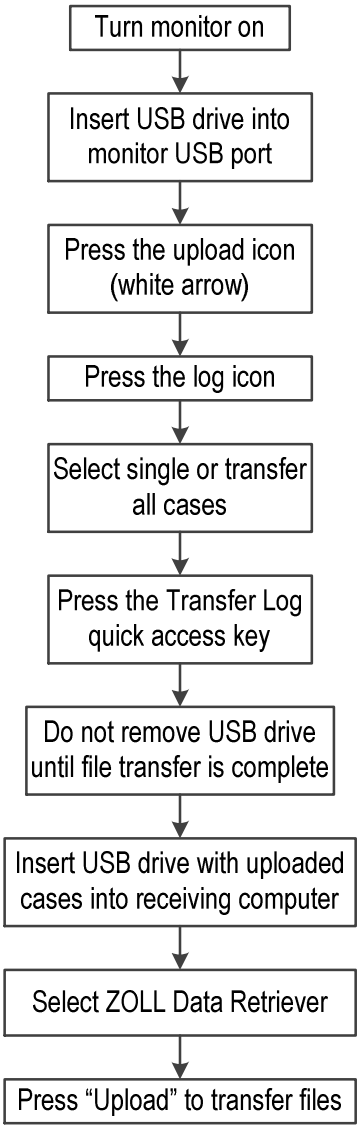


NOTES:

- Transmission must be from the phone paired to the ECG monitor

Initial: 10/10/2007	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 8/1/13	**ECG UPLOAD PROCESS**	
Revision: 1		Page 1 of 1

Purpose:			**Indications:**
To transfer ECG files from the monitor to fire department and Milwaukee County EMS archives			Patients with any ECG monitoring
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Captures and analyzes all ECG information electronically	None	Loss of information if upload procedure not followed correctly	None



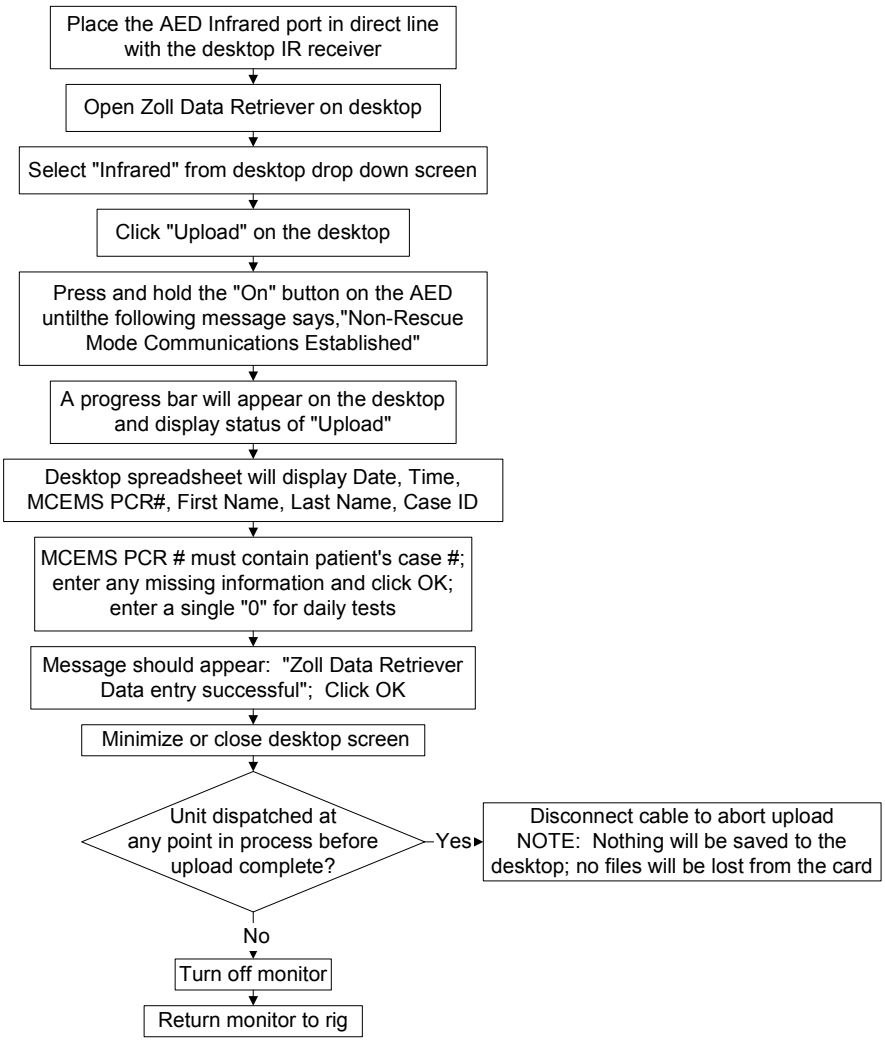
NOTES:

- The MC EMS PCR number must be entered for every case to link the ECG information to the patient's electronic run report. The number can be entered at any time – during the call or at the time of upload
- Enter a single "0" as the MC EMS PCR number for daily tests
- To avoid entering the PCR number numerous times, leave the monitor on and leads attached to the patient during the entire call

Initial: 10/10/2007	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**PRACTICAL SKILL**	Signature:
Revision:	**INFRA RED DATA**	Page 1 of 1

UPLOAD FOR ZOLL AED PRO OR AED PLUS

Purpose:			**Indications:**
To transfer resuscitation information from the Zoll AED Pro or AED Plus to the RescueNet server using infrared ports			Patients with any Zoll AED Plus or AED Pro monitoring
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Captures and analyzes all resuscitation information electronically	None	Loss of information if upload procedure not followed correctly	None

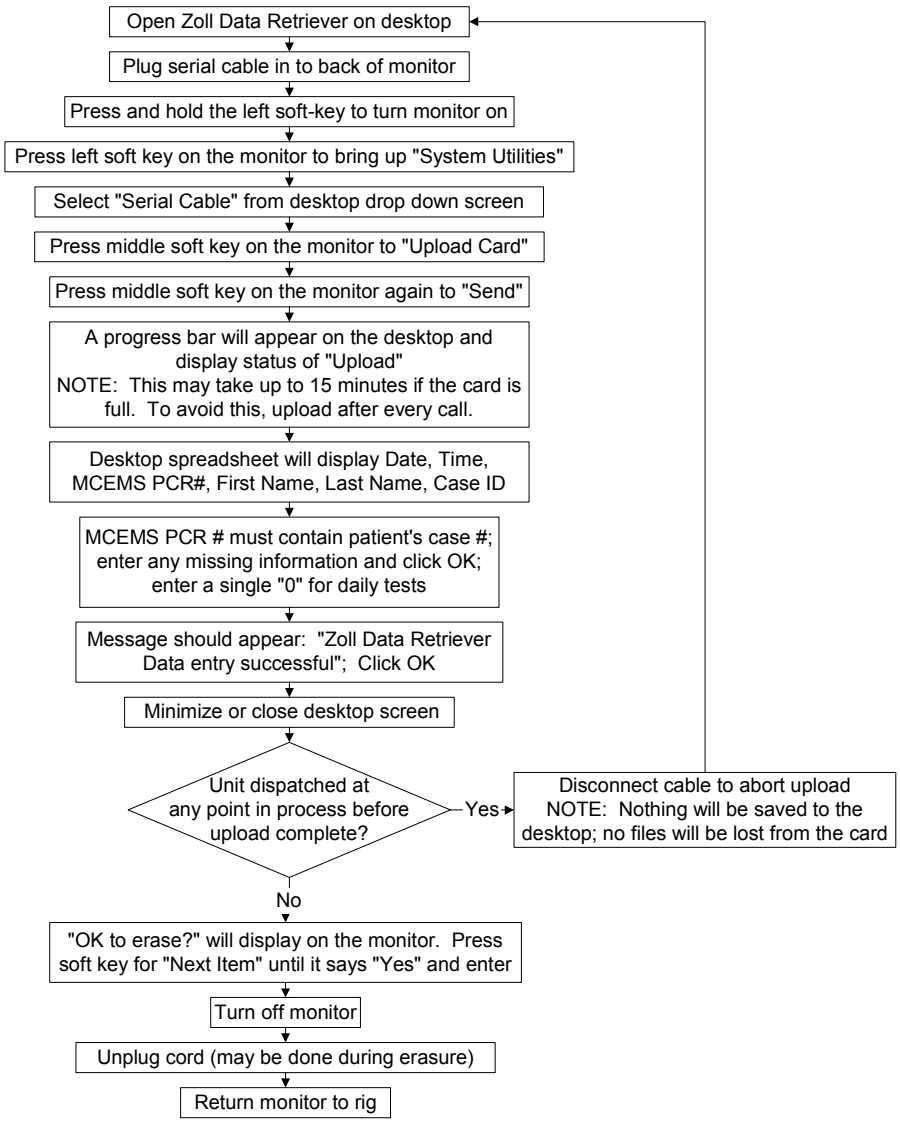


NOTES:

- The MC EMS PCR number must be entered for every case to link the ECG information to the patient's electronic run report. The number can be entered at any time – during the call or at the time of upload
- Enter a single "0" as the MC EMS PCR number for daily tests
- To avoid entering the PCR number numerous times, leave the monitor on and leads attached to the patient during the entire call

Initial: 10/10/2007	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**SERIAL CABLE DATA**	Signature:
Revision:	**UPLOAD FOR ZOLL M-SERIES**	Page 1 of 1

Purpose:			**Indications:**
To transfer ECG and resuscitation information from the Zoll M-series monitor to the RescueNet server using a serial cable			Patients with any Zoll M-series monitoring
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Captures and analyzes all monitoring, CPR, capnography information electronically	None	Loss of information if upload procedure not followed correctly	None

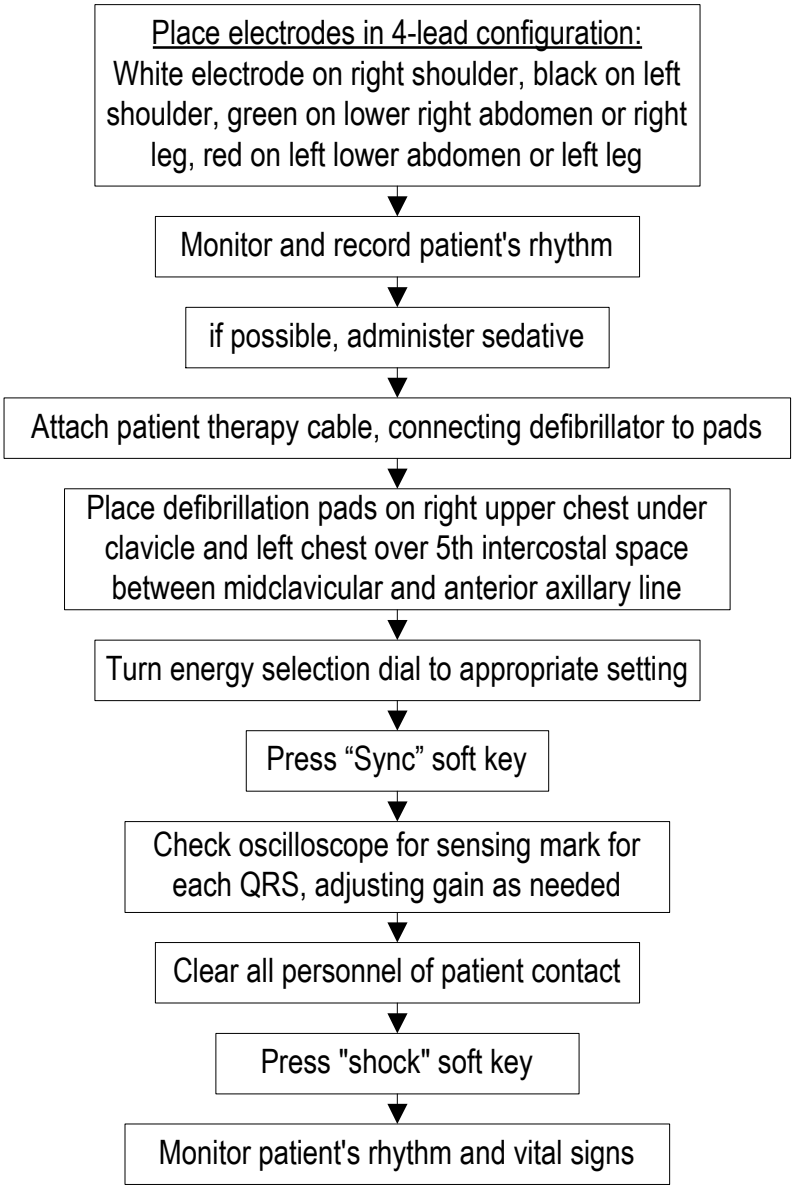


NOTES:

- The MC EMS PCR number must be entered for every case to link the ECG information to the patient's electronic run report. The number can be entered at any time – during the call or at the time of upload
- Enter a single "0" as the MC EMS PCR number for daily tests
- To avoid entering the PCR number numerous times, leave the monitor on and leads attached to the patient during the entire call

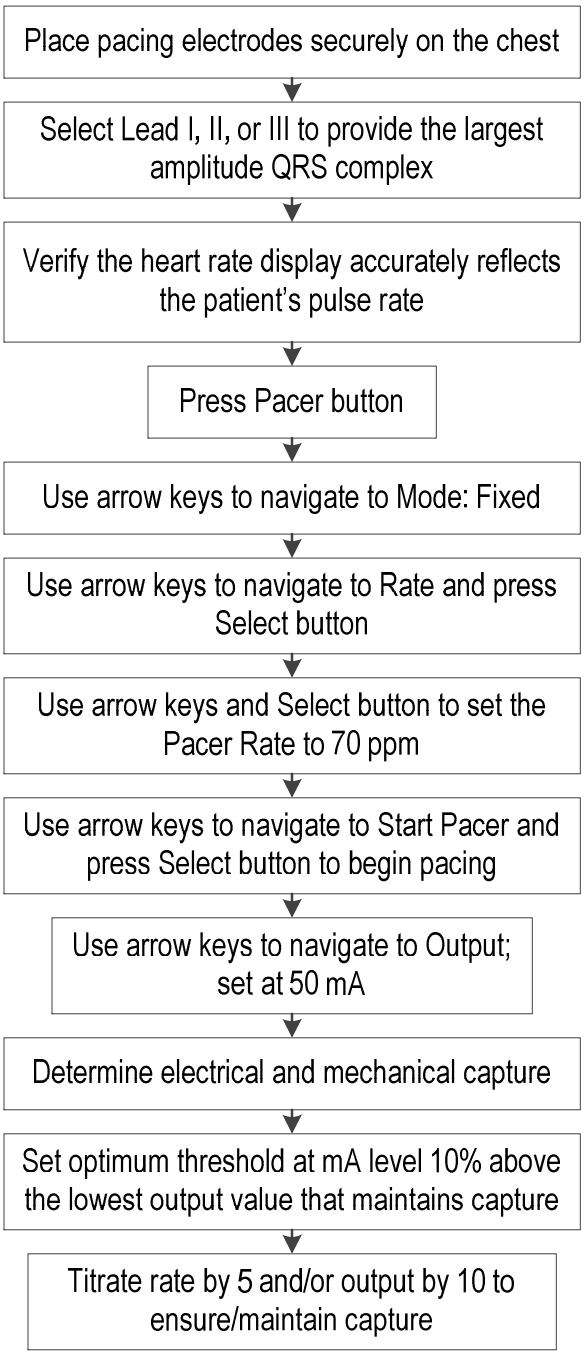
Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 8/1/13	**SYNCHRONIZED CARDIOVERSION**	
Revision: 6		Page 1 of 1

Purpose:		**Indications:**	
To deliver an electrical charge to the myocardium, synchronized to the depolarization of the ventricle		Patient presents in: ventricular tachycardia with pulses or unstable supraventricular tachycardia that has not responded to antiarrhythmics	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Provides rapid conversion of dysrhythmia	Painful if administered without sedation	May result in ventricular fibrillation	Patients taking digitalis preparations



Initial: 11/1/13	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised:	**TRANSCUTANEOUS PACING**	
Revision:		Page 1 of 1

Purpose:		**Indications:**	
Should be considered in unstable patients with high-degree heart block		Patients with symptomatic bradycardia at a • rate of less than 50/min not responding to atropine • Mobitz II • complete heart block	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Noninvasive	May be painful	Prolonged pacing may cause burns	Severe hypothermia, asystole



TRAUMA CARE
AND
SPLINTING SKILLS

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**BOARD SPLINT**	Signature:
Revision: 2		Page 1 of 1

Purpose:		**Indications:**	
To provide rigid splinting for a suspected fracture in an extremity		Suspected extremity fracture	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Easy to apply Readily available	Soft tissue swelling can cause bandages holding the board in place to become too tight and restrict peripheral circulation	None	None

Cover any open wound with sterile dressing, control bleeding; support fracture site during process

↓

Check distal pulse, sensation and movement

↓

Straighten any severe angulation with gentle longitudinal traction above and below break; maintain traction while splint is applied and fixed in place by EMT #2

↓

If resistance is felt when attempting to straighten, stop attempt and splint in position found

↓

Apply rigid splint to extremity, extending from joint above through joint below fracture site

↓

Secure splint to extremity with bandage

↓

Check distal circulation, sensation, and movement after splinting and frequently thereafter

↓

Loosen bandages on splint if necessary to maintain circulation

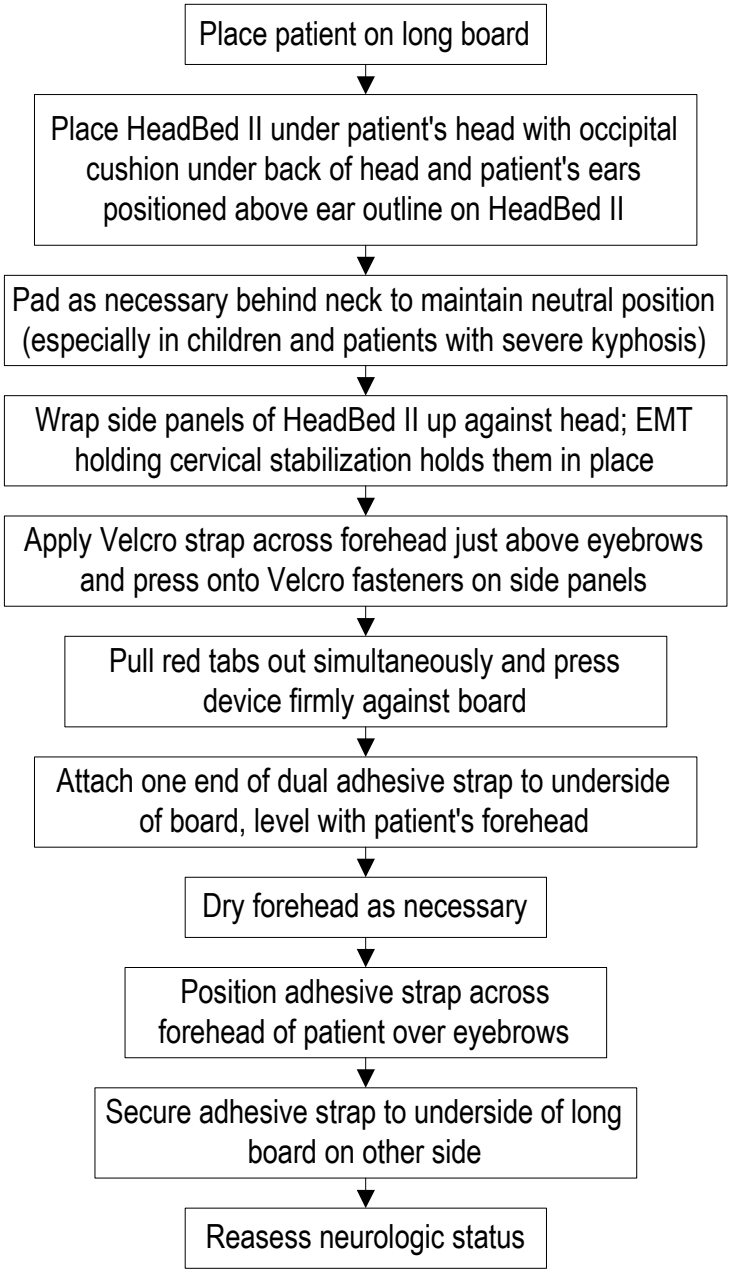
↓

A sling and swathe may be used to further support upper extremity injuries

NOTES:

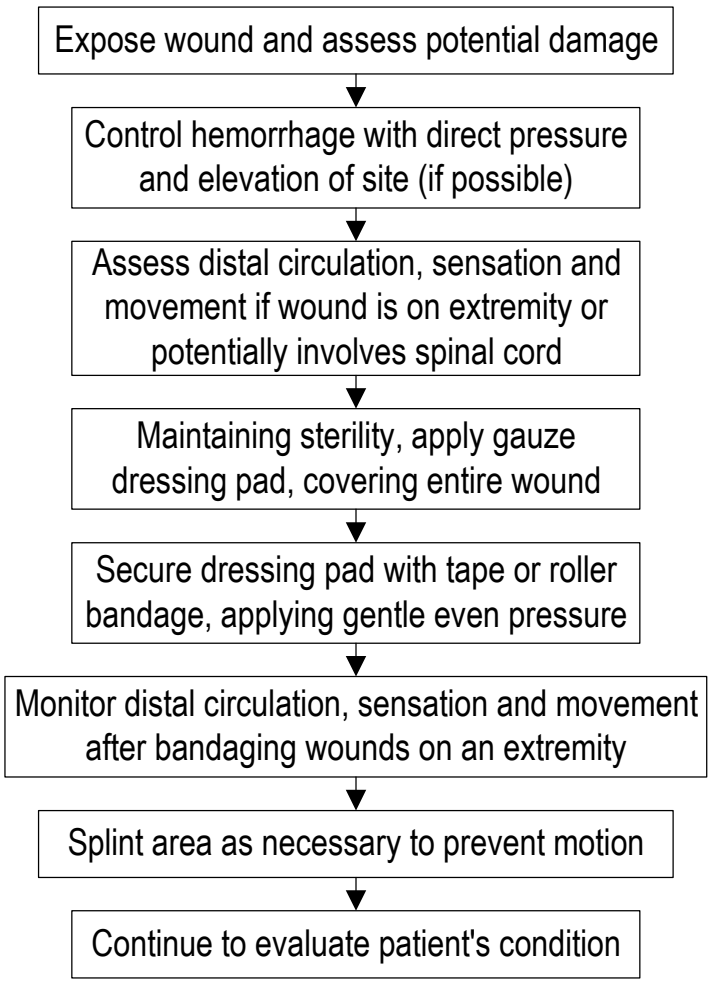
- Fractures/injuries appropriately treated with a board splint are: radius, ulna, midshaft humerus, tibia/fibula.

Purpose:		**Indications:**	
To be used as an adjunct to spinal movement precautions in a patient with a suspected potential for spinal cord injury		Patients with a suspected potential for spinal cord injury	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Prevent further injury	Airway easily compromised if patient vomits Straps may restrict respiratory effort	None	None



Initial: 12/82	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/20/00	**HEMORRHAGE CONTROL**	Signature:
Revision: 2	**BANDAGING**	Page 1 of 1

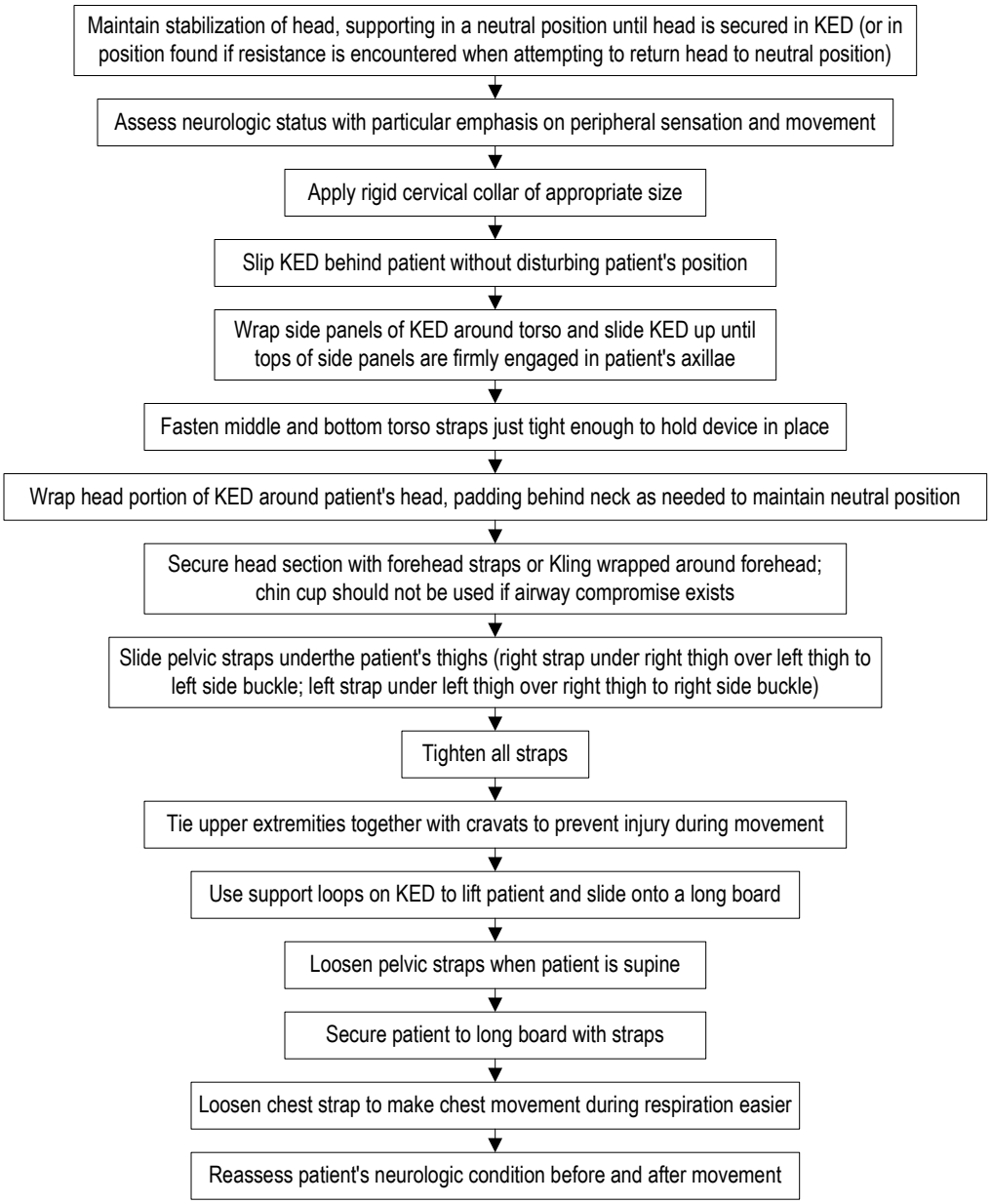
Purpose:		**Indications:**	
To control bleeding from an open wound To prevent further contamination of an open wound		Patients who present with bleeding, open wounds	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Prevents further blood loss Decreases opportunities for wound contamination	Obscures view of wound Continued hemorrhage into a bulky dressing may go unrecognized	Injury to surrounding soft tissue Circumferential bandage may become venous tourniquet if soft tissue swelling occurs	None



Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 2/15/12	**KENDRICK EXTRICATION DEVICE**	Signature:
Revision: 3		Page 1 of 1

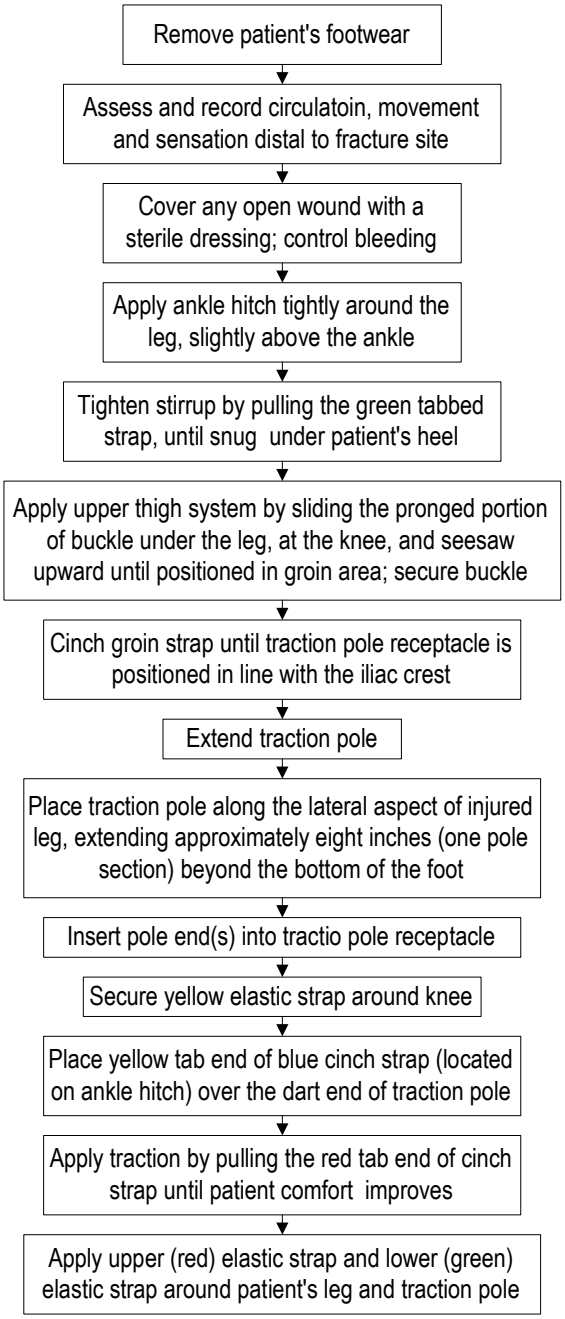
Purpose:	**Indications:**
To provide rigid stabilization of the cervical and thoracic spine during movement of a patient with a suspected spinal injury from a sitting to supine position	Any patient with a possible spinal injury, found in a sitting position

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Easy to apply Provides rigid stabilization of head and spine when properly applied	Chest and abdominal straps may restrict respirations Obscures visualization of back and sides	Use of the chin strap prevents patient from opening mouth if vomiting occurs	None



Initial: 5/21/08	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**KENDRICK-TYPE TRACTION DEVICE**	Signature:
Revision:		Page 1 of 1

Purpose:			**Indications:**
To provide stabilization and anatomic position of a femur fracture			Femur fracture
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Decreases pain, muscle spasm Prevents further damage Requires only one EMT to apply	Application may delay transport	Straps holding the splint in place may restrict peripheral circulation if soft tissue swelling occurs	Ankle dislocation Knee dislocation Hip fracture



Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 7/1/14	**LOG ROLL TO LONG BOARD PRONE PATIENT**	
Revision: 3		Page 1 of 1

Purpose:		**Indications:**	
To be used as an adjunct to spinal movement precautions in a patient with a suspected potential for spinal cord injury in a patient with a suspected potential for spinal cord injury		Patients with a suspected potential for spinal cord injury	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Prevent further injury	Requires three knowledgeable rescuers Airway easily compromised if patient vomits Straps may restrict respiratory effort	None	None

Maintain cervical stabilization

↓

EMT#1: maintain cervical stabilization and direct the team in patient movement

↓

Secure patient's lower extremities together

Position long board parallel to patient so back of patient's head is next to board

↓

EMT #2 & #3: kneel on both knees on board, facing patient

↓

EMT #2: raise patient's nearest arm over patient's head to prevent arm from obstructing roll (or place arm at patient's side with hand against thigh)

↓

EMT #2: Place one hand on patient's farthest shoulder, other hand on hip

↓

EMT #3: place top hand around patient's hip, bottom hand at thigh region

↓

On signal from EMT #1, EMT #2 & #3 roll patient toward them, while maintaining spinal alignment

↓

EMT #1: bring head into neutral position, achieving spinal alignment, as patient is rolled (If resistance to movement is felt, stabilize head in position found)

↓

If centering is necessary: on signal from EMT #1, slide patient with gentle, even motion while maintaining spinal alignment

↓

EMT #2 or 3: apply cervical collar

↓

EMT #2 or 3: secure body to long board

↓

EMT #2 or 3: secure patient's head to long board

↓

EMT #1: release manual stabilization

↓

Reassess status of circulation, movement and sensation

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 7/1/14	**LOG ROLL TO LONG BOARD SUPINE PATIENT**	
Revision: 3		Page 1 of 1

Purpose:	**Indications:**
To be used as an adjunct to spinal movement precautions in a patient with a suspected potential for spinal cord injury in a patient with a suspected potential for spinal cord injury	Patients with a suspected potential for spinal cord injury

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Prevent further injury	Requires three knowledgeable rescuers Airway easily compromised if patient vomits Straps may restrict respiratory effort	None	None

Maintain cervical stabilization

↓

EMT#1: maintain cervical stabilization and direct the team in patient movement

↓

Position long board along one side of patient

↓

EMT #2 & #3: kneel in straight line, along patient's side

↓

EMT #2: raise patient's nearest arm over patient's head to prevent arm from obstructing roll (or place arm at patient's side with hand against thigh)

↓

EMT #2: Place one hand on patient's farthest shoulder, other hand on small of back

↓

EMT #3: place top hand around patient's hip, bottom hand at thigh region

↓

On signal from EMT #1, EMT #2 & #3 roll patient toward them, while maintaining spinal alignment

↓

Place device to ensure patient's head is in proper alignment when patient is rolled back

↓

On signal from EMT #1, roll patient back onto device and lower arm to side

↓

If centering is necessary: on signal from EMT #1, slide patient with gentle, even motion while maintaining spinal alignment

↓

EMT #3: secure body to long board

EMT #2: secure patient's head to long board

↓

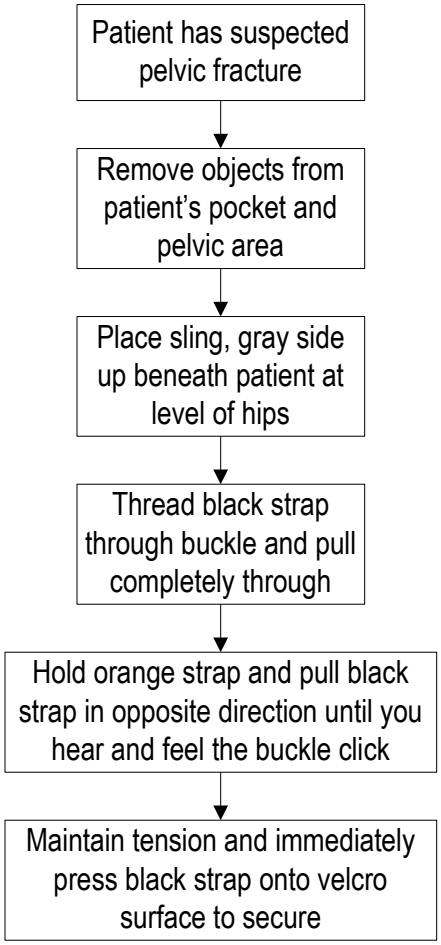
EMT #1: release manual stabilization

↓

Reassess status of circulation, movement and sensation

Initial: 7/11/11	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:		
Revision:	**PELVIC SLING**	Page 1 of 1

Purpose:		**Indications:**	
To provide stabilization of pelvic fractures		Suspected pelvic fracture	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Easy to apply Designed to apply correct force; cannot be over- tightened Allows for x-rays without removal	None	Prolonged application can cause excessive skin pressure, especially with massive fluid resuscitation	Not for use on pediatric patients



Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**PRACTICAL SKILL**	Signature:
Revision: 2	**PRO SPLINTS**	Page 1 of 1

Purpose:		**Indications:**	
To provide rigid stabilization of a suspected fracture site		Suspected fracture	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Easy to apply	Soft tissue swelling can cause Velcro straps holding the splint in place to become too tight and restrict peripheral circulation	None	None

Cover any open wound with a sterile dressing, control bleeding; support fracture site during process

↓

Check distal pulse, sensation and movement

↓

Straighten any severe angulation with gentle longitudinal traction above and below break; maintain traction while splint is applied and fixed in place by EMT #2

↓

If resistance is felt when attempting to straighten, stop attempt and splint in position found

↓

Apply splint to extremity, extending from joint above through joint below fracture site

↓

Secure splint to extremity with Velcro straps

↓

Check distal circulation, sensation and movement after splinting and frequently thereafter

↓

Loosen straps on splint if necessary to maintain circulation

↓

A sling and swathe may be used to further support upper extremity injuries

NOTES:

- Pro splints may be used for any upper or lower extremity injury as long as the splint extends from the joint above through the joint below the fracture site.

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**PRACTICAL SKILL**	Signature:
Revision: 2	**RIGID BOARD SPLINT FOR JOINT INJURY**	Page 1 of 1

Purpose:		**Indications:**	
To provide rigid stabilization of a suspected joint fracture		Suspected joint fracture	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Easy to apply Readily available	Soft tissue swelling can cause bandages holding the board in place to become too tight and restrict peripheral circulation	None	None

Cover any open wound with a sterile dressing and control bleeding; support fracture site during process

↓

Check distal pulse, sensation and movement

↓

Apply padded/rigid splint across joint from bone above to bone below joint to form a triangle

↓

Secure both ends of splint to extremity on each side of joint

↓

Check distal circulation, sensation and movement after splinting and frequently thereafter

↓

Loosen bandaging, cravats if necessary to maintain circulation

↓

A sling and swathe may be used to further support upper extremity injuries

NOTES:

- Fractures/injuries appropriately treated with a rigid board splint for a joint injury are: elbow, knee.

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00	**PRACTICAL SKILL**	Signature:
Revision: 2	**MOVEMENT OF A SUPINE**	Page 1 of 1

PATIENT USING A SCOOP STRETCHER

Purpose:		**Indications:**	
To enable movement of a patient with a suspected spinal cord injury while maintaining rigid stabilization of the spinal column		Patients with a suspected potential for spinal cord injury	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Enables movement of patient to long board with spinal stabilization Prevent further injury	Immobilizes patient supine leaving airway easily compromised if patient vomits Straps may restrict respiratory effort	Pinched skin	None

Stabilize head, neck and spine in neutral position

↓

Adjust stretcher length to height of patient

↓

Release stretcher locks and separate into two sections, one on each side of patient

↓

Slide stretcher halves under patient without disturbing spinal alignment

↓

Close and lock head end of the scoop stretcher

↓

Close and lock foot end of scoop stretcher, taking care not to pinch patient

↓

Maintain head stabilization while patient is lifted onto long board

↓

Open foot end of scoop stretcher

↓

Open head end of scoop stretcher

↓

Remove scoop stretcher without disturbing spinal alignment

↓

Position and secure HeadBed II

↓

Secure patient to long board with straps

↓

Reassess neurologic status

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/15/08	**PRACTICAL SKILL**	Signature:
Revision: 3	**SLING AND SWATHE**	Page 1 of 1

Purpose:		**Indications:**	
To immobilize the shoulder girdle and upper extremity		Fracture/dislocation/injury to the upper extremity	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Easy to apply Supports the shoulder girdle and upper extremity well	Patient must be in sitting position Does not provide rigid protection by itself	None	None

Check distal circulation, sensation, and movement

↓

Fold forearm of injured side across chest, hand slightly elevated toward opposite shoulder

↓

Place triangular bandage under and over arm with point at elbow and ends tied around neck

↓

Pin or tie pointed end of triangular bandage to form cup to support elbow

↓

Leave fingers exposed to check circulation

↓

Wrap wide bandage/cravat around injured arm and body as swathe to secure injured arm to body

↓

Transport in sitting or semi-sitting position if patient's condition permits

↓

Check distal circulation, sensation and movement after splinting and frequently thereafter

NOTES:

- Fractures/injuries appropriately treated with a sling and swathe are: clavicle, scapula, shoulder dislocation, humerus.
- A sling and swathe may also be used as a support for board splints on the elbow, forearm, or wrist.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 7/1/14	**SPINAL STABILIZATION**	
Revision: 3		Page 1 of 1

Purpose:		**Indications:**	
To be used as an adjunct to spinal movement precautions in a patient with a suspected potential for spinal cord injury in a patient with a suspected potential for spinal cord injury		Patients with a suspected potential for spinal cord injury	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Prevent further injury	Airway easily compromised if patient vomits Straps may restrict respiratory effort	Pressure sores due to long transport times	None

Stabilize head & C-spine in neutral position with manual stabilization at base of skill with fingers under jaw

↓

Pad as necessary under shoulders in pediatric patients or behind neck of patients with marked kyphosis to keep C-spine in neutral position

↓

Maintain stabilization until patient is secured on long board

↓

Use appropriate technique/adjunct to maintain airway

↓

Select appropriate size cervical collar for patient

↓

Slip C-collar under patient's neck without flexing head

↓

Apply collar without releasing stabilization; close straps

↓

Restrain patient's extremities appropriately

↓

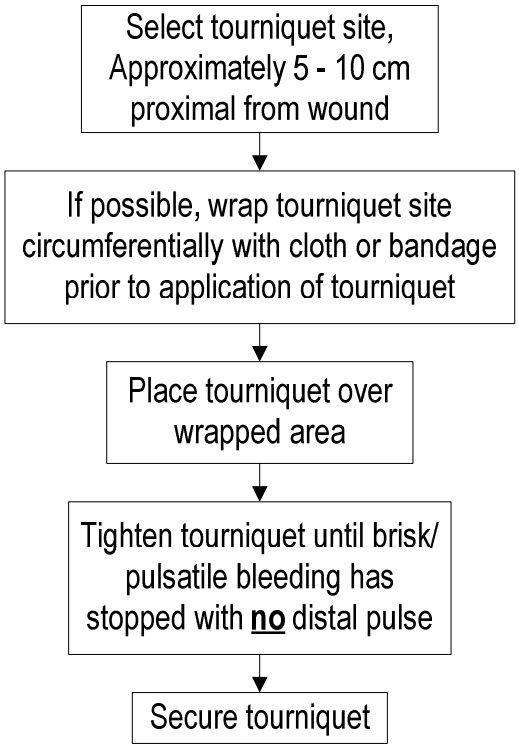
Move patient to long board using appropriate technique

↓

Reassess neurologic status

Initial: 2/17/10	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**TOURNIQUET APPLICATION**	
Revision:		Page 1 of 1

Purpose:		**Indications:**	
To stop uncontrolled extremity hemorrhage		Uncontrolled extremity hemorrhage not responsive to direct pressure	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Can be secured in place to control hemorrhage	May be painful	Ischemia of extremity with prolonged use (usually over 2 hours)	Only to be used on the extremities, and **not** the torso, face, head, or neck Not to be used on limbs with dialysis fistulas except in cases of traumatic penetration, amputation, or crush injury without response to direct pressure

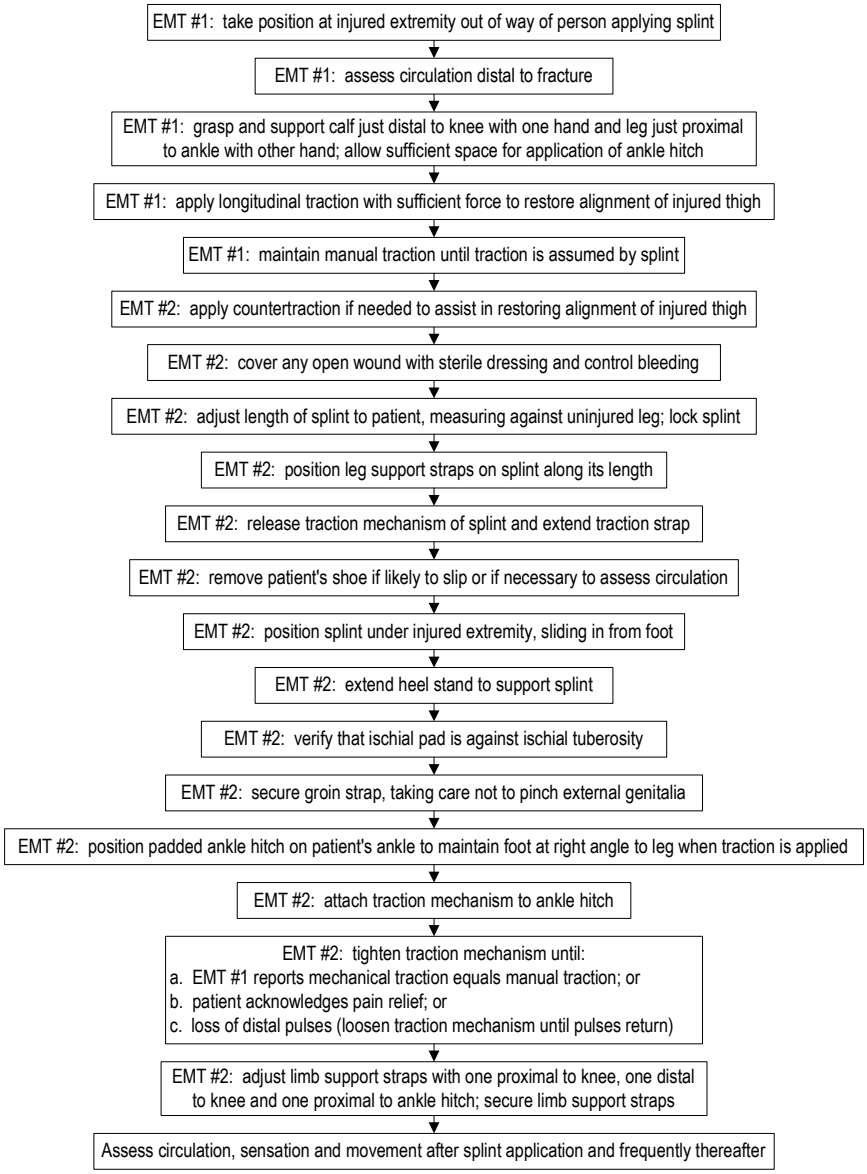


NOTES:

- Whenever possible, tourniquets should be applied over circumferential clothing remnant or gauze/kling wrap in order to reduce the possibility of skin injury.
- Tourniquets are applied to the injured extremity approximately 5-10 cm proximal to (above) the wound. They should never be applied on a joint. In such cases, the tourniquet can be moved distally (below) or proximally (above) - preferably distal - to the joint.
- A tourniquet should be tightened until brisk/pulsatile bleeding ceases, and there are no detectable distal pulses. The wound may continue to ooze.
- Once placed, a tourniquet should not be removed except under the orders of a physician.

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 9/24/03	**PRACTICAL SKILL**	Signature:
Revision: 2	**TRACTION SPLINTING**	Page 1 of 1

Purpose:			**Indications:**
To provide stabilization and anatomic position of a femur fracture			Femur fracture
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Decreases pain, muscle spasm Prevent further damage	Application may delay transport Requires 2 EMTs to apply	Straps holding the splint in place may restrict peripheral circulation if soft tissue swelling occurs	Ankle dislocation Knee dislocation Hip fracture



NOTES:

- If the unit is not equipped with a pediatric traction splint, two padded board splints may be applied.

Initial: 5/16/12	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**PRACTICAL SKILL**	Signature:
Revision:	**VACUUM SPLINTS**	Page 1 of 1

Purpose:		**Indications:**	
To provide rigid stabilization of a suspected fracture site		Suspected fracture	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Easy to apply	Soft tissue swelling can cause the splint to become too tight and restrict peripheral circulation	None	None

Cover open wounds with sterile dressing, control bleeding, support site during process

↓

Palpate distal pulses and check for capillary refill prior to application

↓

Straighten severe angulation with gentle longitudinal traction above and below injury

↓

If resistance is felt when attempting to straighten, stop attempt and splint in position found

↓

Apply splint: wrap around the injured area, immobilizing joints above and below injury site

↓

Open valve: pull on the right angle tube at connection point to the red valve stem

↓

Attach suction device: with valve in open position, insert tapered tip of pump hose into the right angle valve tube

↓

Evacuate air: turn on suction unit until splint forms a rigid cast around injured area

↓

Close valve: push stem in to after desired firmness is achieved

↓

Remove suction unit and recheck splint firmness

↓

Maintain support of splint; confirm distal pulses and circulation; adjust as necessary

↓

Secure splint; continue monitoring distal pulses and circulation

↓

To remove splint: remove fastening material; open valve allowing air to enter splint; remove

NOTES:

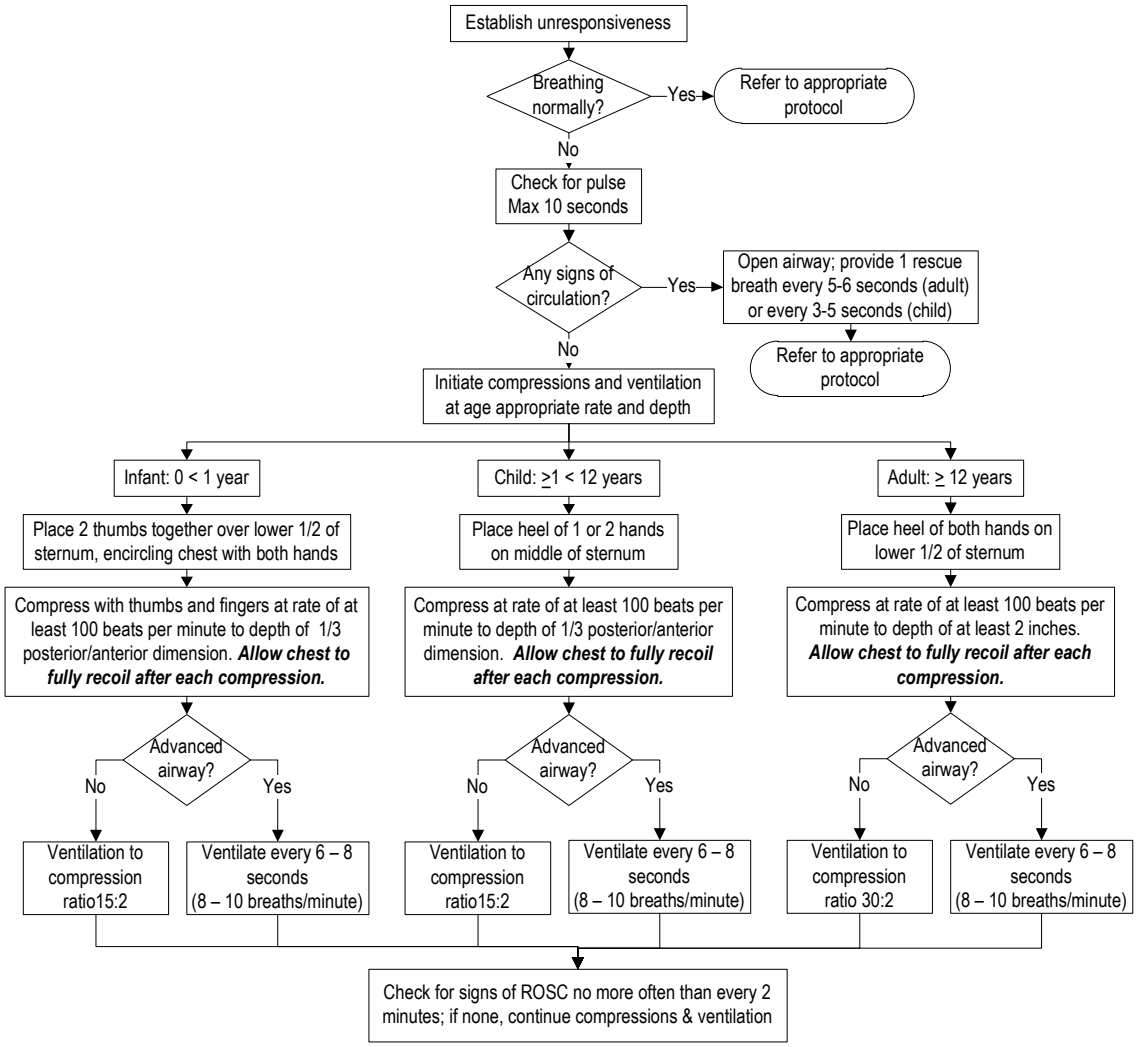
- Vacuum splints may be used for any upper or lower extremity injury as long as the splint extends from the joint above through the joint below the fracture site.

MISCELLANEOUS SKILLS

Initial: 12/11/02	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 8/1/13		
Revision: 5		Page 1 of 1

CARDIOPULMONARY RESUSCITATION

Purpose:			**Indications:**
To attempt to establish return of spontaneous circulation and respiration in a patient in cardiorespiratory arrest.			Patient is in cardiorespiratory arrest.
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Provides circulation and respiration during cardiorespiratory arrest	None	Possible chest trauma	Patient has pulse and respiration Patient meets any of the following criteria: valid DNR or POLST order, decapitation, rigor mortis, extreme dependent lividity, tissue decomposition, fire victim with full thickness burns to 90% or greater body surface area, or patient meets hypothermia criteria for withholding resuscitative measures



NOTES:

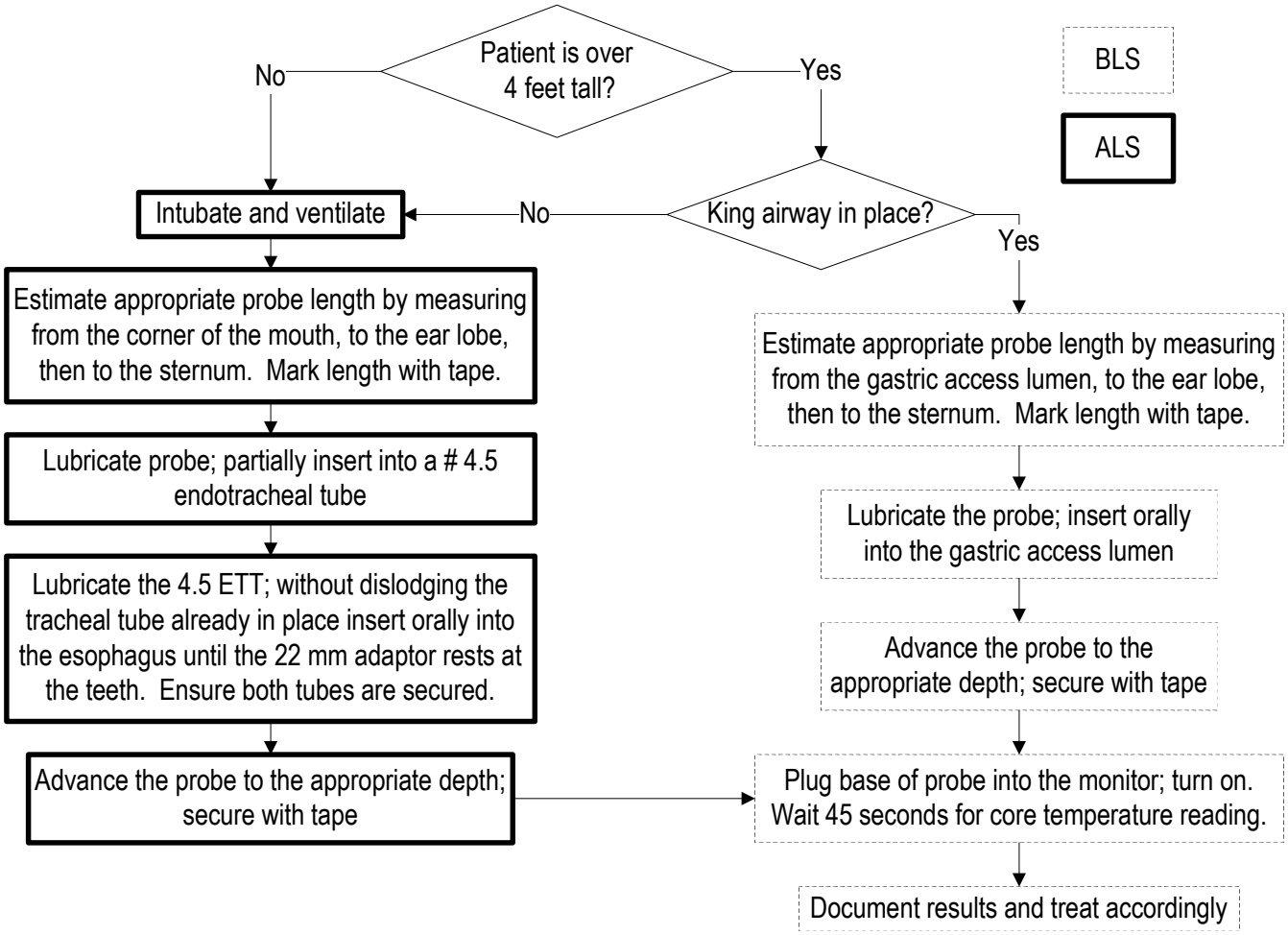
- The rescuer performing chest compressions should switch at least every 2 minutes.
- All ventilations should be 1 second in duration.
- When an advanced airway is in place, continue compressions non-stop **without** pausing for ventilation.
- Chest compressions should be done as follows: **push hard and fast, release completely, minimize interruptions.**
- The system standard is: CPR will be provided whenever patient is pulseless; compressions at least 100/minute; hands on chest more than 75% of time; minimum compression depth of 2 inches in adults 75% of the time.
- The risk and benefit of providing CPR in a moving vehicle must be weighed on a case by case basis.
  - Providing compressions in a moving vehicle exposes the rescuer to potential injury.
  - Chest compressions in a moving vehicle are known to be less effective.

Initial: 10/17/12	**MILWAUKEE COUNTY EMS**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised:	**PRACTICAL SKILL**	
Revision:	**ESOPHOGEAL PROBE PLACEMENT**	Page 1 of 1

FOR CORE TEMPERATURE MEASUREMENT

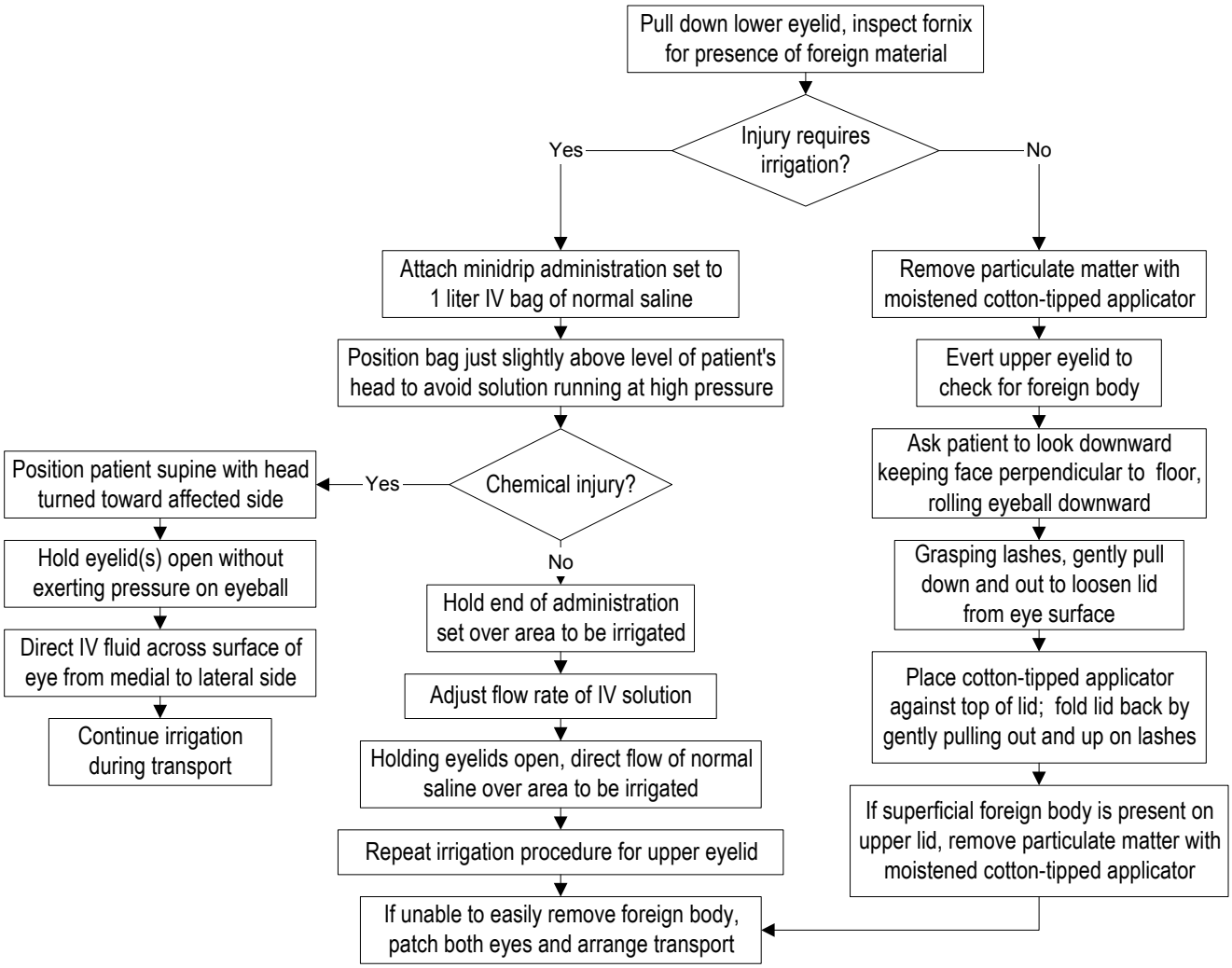
Purpose:		**Indications:**	
To obtain core temperature of suspected hypothermic patient		Cardiac arrest, medical or traumatic	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Minimal training required Rapid insertion	Gag reflex must be absent Patient must be unconscious Does not protect from aspiration	Possible trauma to airway or esophagus	Known esophageal disease or trauma Upper airway trauma or bleeding Intact gag reflex Caustic ingestion

Proper placement of the continuous temperature monitor can only be accomplished if the patient is being successfully ventilated through an endotracheal tube or a King LTS-D, size 3 or larger. The monitor is capable of detecting a temperature range from 63°F to 113°F and can convert from Fahrenheit to Celsius.



Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/10/00		Signature:
Revision: 2	**FOREIGN MATERIAL IN EYE**	Page 1 of 1

Purpose:		**Indications:**	
To evaluate and remove foreign body or chemical from the anterior surface of the eye		Patient presents with foreign material on the anterior surface of the eye	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Decreases discomfort of foreign body in the eye Prevent further injury	May intensify injury if not easily removed	Ocular injury from tip of the irrigating line or from pressure from the fluid stream Vagal stimulation due to ocular pressure	Ruptured globe

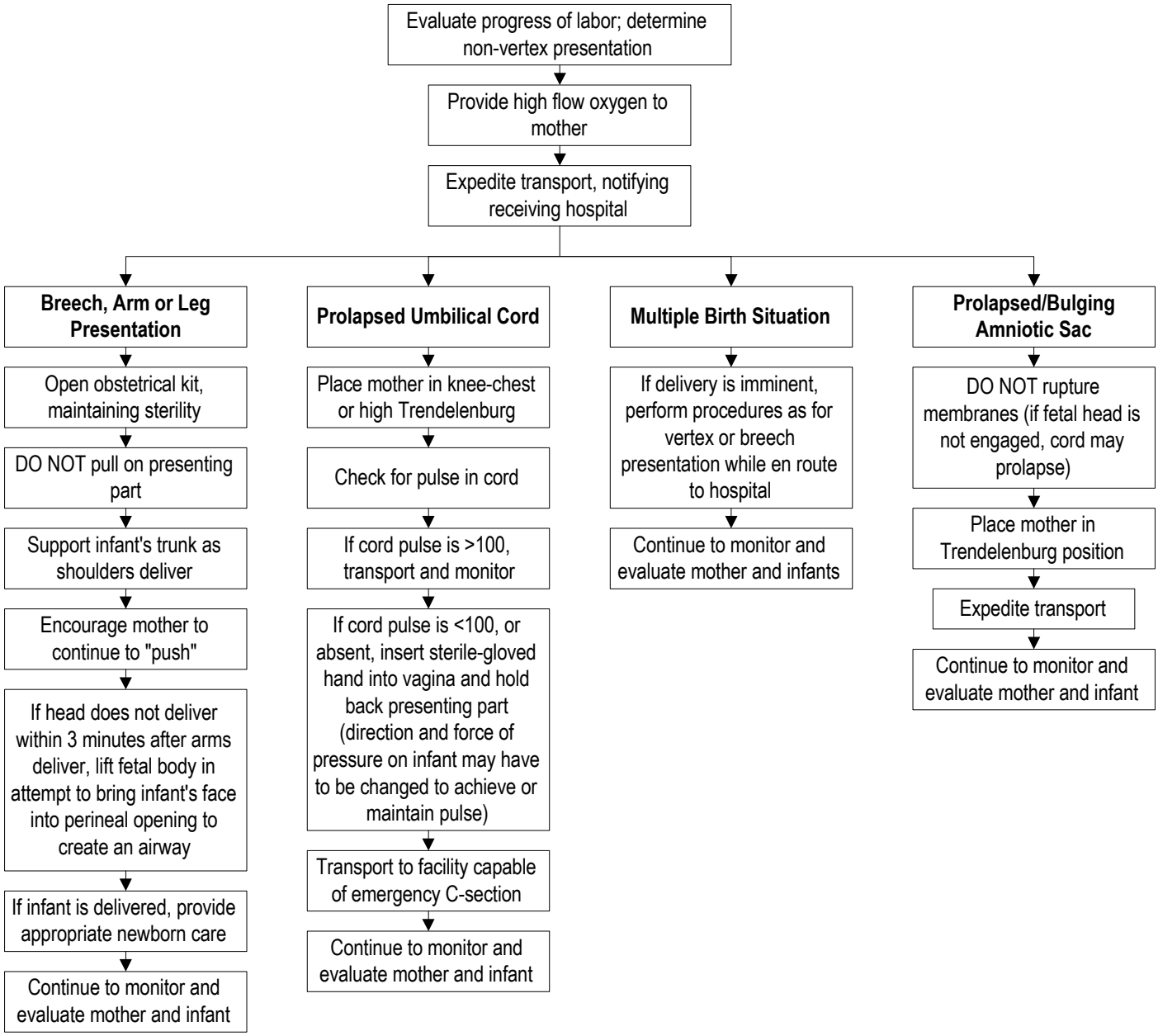


NOTES:

- Use at least one liter of normal saline to flush each eye.

Initial: 9/92	MILWAUKEE COUNTY EMS PRACTICAL SKILL LABOR/DELIVERY NON-VERTEX PRESENTATION	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 2/23/13		Page 1 of 1
Revision: 2		

Purpose:	Indications:
To evaluate and assist a woman in labor as necessary when the infant's position is not vertex	Patients in labor with imminent delivery and infant not in the vertex position

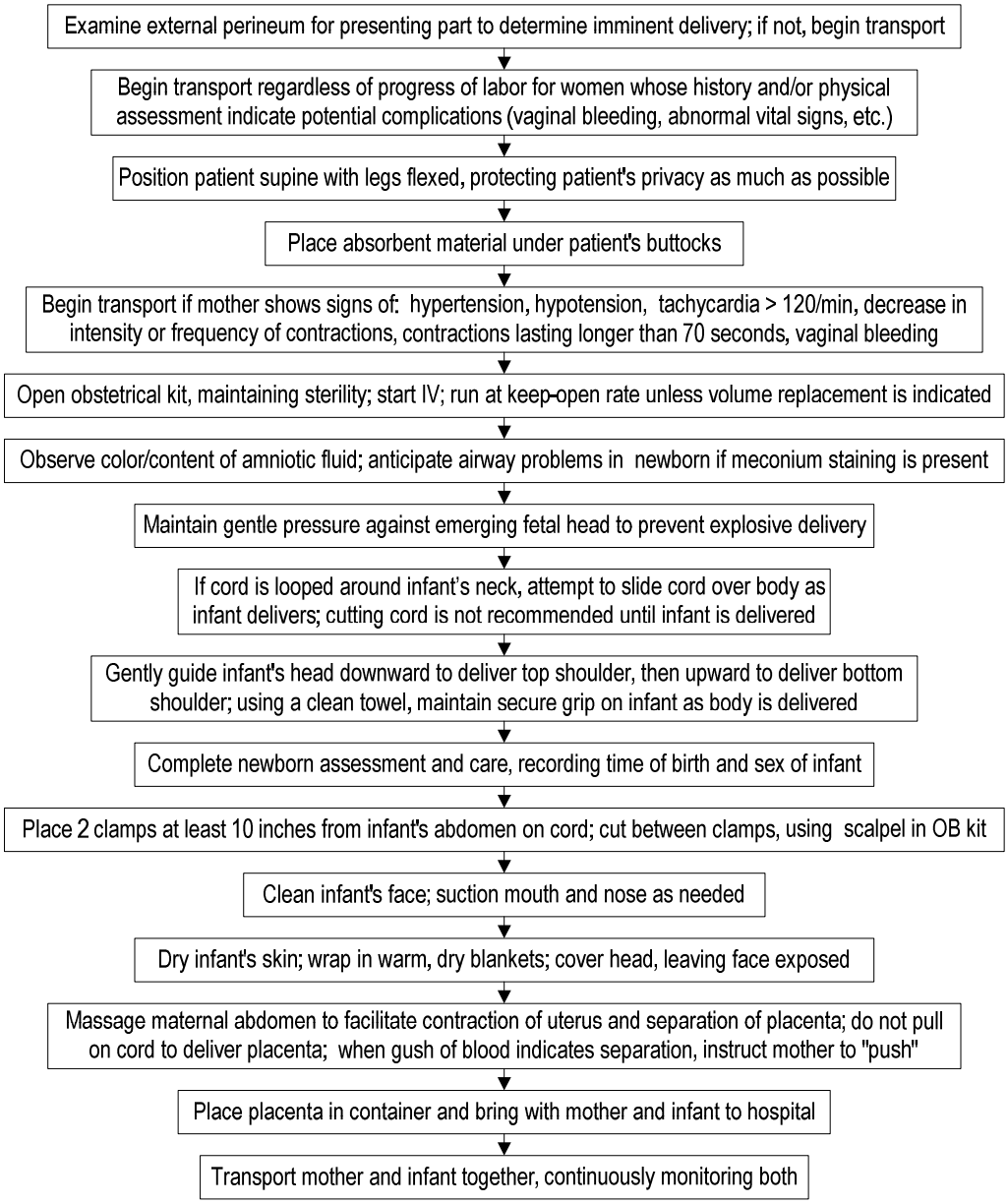


NOTES:

- IV lines should only be started when their need is critical and they will not delay transport.

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL LABOR/DELIVERY VERTEX PRESENTATION**	Approved by: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 2/23/13		Page 1 of 1
Revision: 3		

Purpose:	**Indications:**
To monitor and assist in the obstetrical delivery of an infant in the vertex position	Patients in labor with imminent delivery and infant in the vertex position

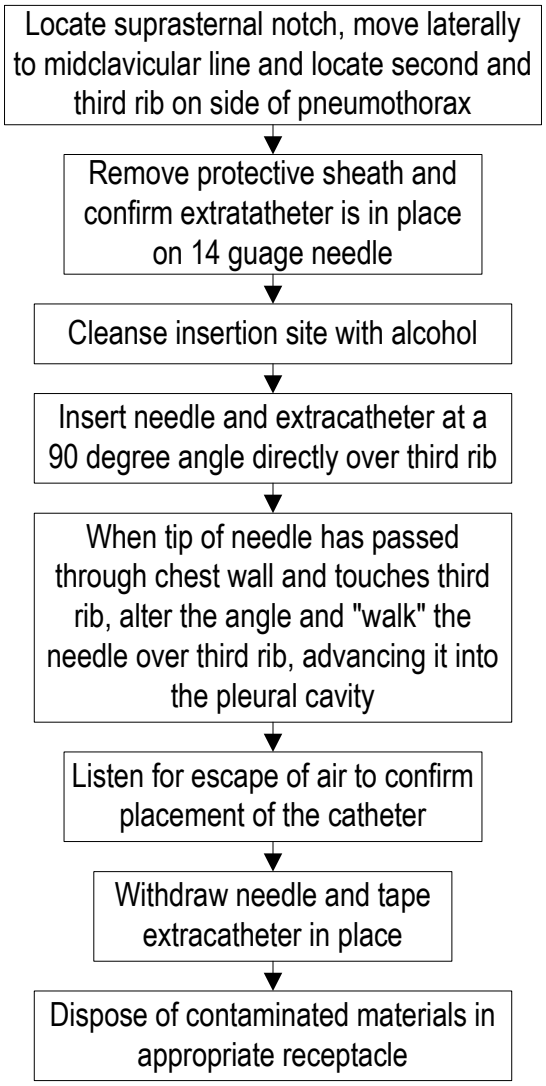


NOTE:
Acquire APGAR score at one and five minutes after birth

CRITERIA	0 POINTS	1 POINT	2 POINTS
Appearance (color)	Cyanotic	Body pink, extremities cyanotic	Pink
Pulse	Absent	Less than 100/minute	More than 100/minute
Grimace (response to suctioning)	None	Weak	Vigorous
Activity (muscle tone)	Limp	Weak	Vigorous
Respiratory Effort	None	Slow, irregular	Strong, crying

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL NEEDLE THORACOSTOMY**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 10/14/09		Signature:
Revision: 3		Page 1 of 1

Purpose:		**Indications:**
To provide an open vent into the pleural space to decompress suspected tension pneumothorax		Patients presenting with suspected tension pneumothorax
Advantages:	**Complications:**	**Contraindications:**
Decompresses tension pneumothorax Facilitates ventilation	Intercostal artery injury Iatrogenic pneumothorax if original diagnosis was incorrect	None if patient meets clinical criteria



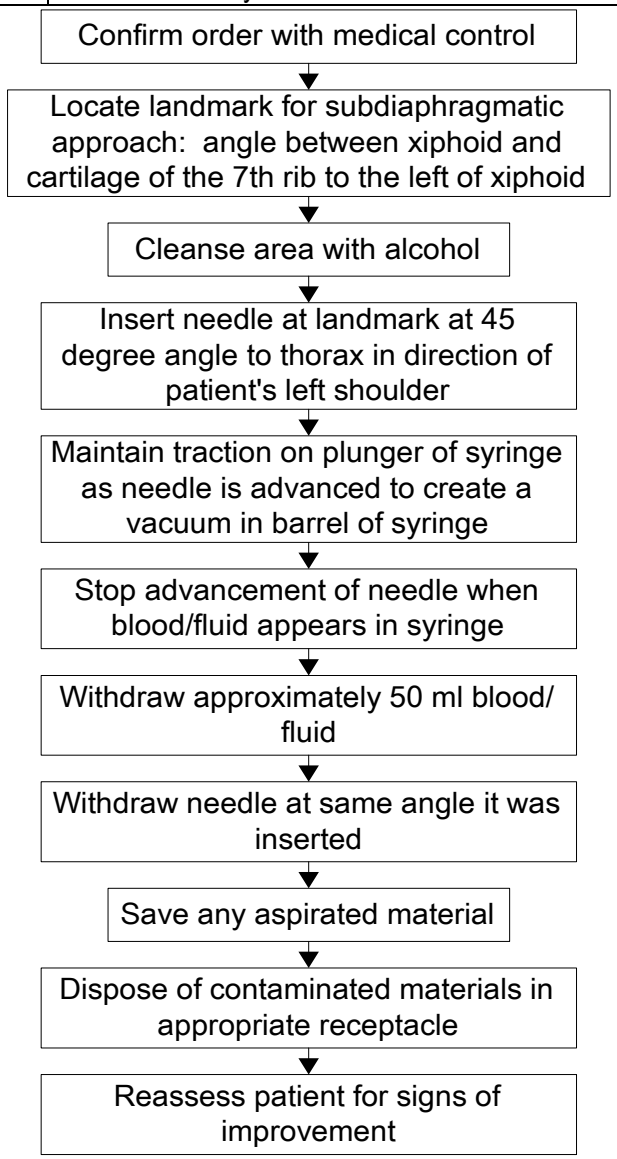
NOTES:

- *Signs/symptoms of a tension pneumothorax*: restless/agitated; increases resistance to ventilation; jugular vein distention; severe respiratory distress; decreased or absent breath sounds on the affected side; hypotension; cyanosis; tracheal deviation away from the affected side
- *Indications that procedure was successful*: increase in blood pressure; loss of jugular vein distention; decreased dyspnea; easier to ventilate patient; improved color

Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**PERICARDIOCENTESIS**	Signature:
Revision: 2		Page 1 of 1

Purpose:	**Indications:**
To remove blood or fluid from the pericardial sac	Pulseless, apneic patients with signs/symptoms of pericardial tamponade

Advantages:	**Complications:**	**Contraindications:**
Removes blood or fluid from the pericardial sac	Damage to the left anterior descending coronary artery Pneumothorax Laceration of myocardium	Any patient with pulses



NOTES:

- Signs/symptoms of pericardial tamponade are: hypotension, tachycardia, distended neck veins, narrow pulse pressure, lack of pulses with CPR.

Initial: 9/92
Reviewed/revised: 5/12/04
Revision: 3

MILWAUKEE COUNTY EMS
PRACTICAL SKILL
PNEUMATIC ANTI-SHOCK GARMENT (PASG) (MAST)

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

Purpose:	**Indications:**
To increase intra-abdominal/intra-pelvic pressure and peripheral vascular resistance To provide rigid stabilization for suspected pelvic and/or lower extremity fractures	Suspected abdominal aortic aneurysm Suspected pelvic and/or femur fracture Extensive soft tissue injuries to lower extremities

Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Increased arterial blood pressure Increased venous return to the heart Increased/stabilized cardiac output Decrease of hemorrhage under the garment Stabilization of fractures	Covers abdomen, pelvis and lower extremities, obscuring visualization	Increase in hemorrhage in areas not covered by garment Application may delay transport	*Absolute Contraindications* Pulmonary edema/CHF Penetrating thoracic injury Thoracic aneurysm or dissection *Contraindications to abdominal inflation:* Abdominal evisceration Acute abdominal distention Impaled object in abdomen 3rd trimester pregnancy

INFLATION

Unfold PASG on long board
↓
Remove sharp objects from patient's pockets or remove clothing
↓
Dress any wounds
↓
Note and document physical assessment findings of any pathology which will be covered by PASG
↓
Move patient onto PASG, utilizing scoop stretcher
↓
Position patient on PASG with superior edge of suit just below rib cage
↓
Beginning at ankles, secure velcro straps to mold suit around the patient
↓
Attach inflation pump and open all three valves
↓
Inflate the suit until:
a. The patient's systolic pressure exceeds 90 mmHg (if the suit is used for hypotension)
b. The velcro straps crackle
c. Air escapes from the relief valves
↓
Close valves to all compartments
↓
Assess and monitor changes in patient's condition

DEFLATION

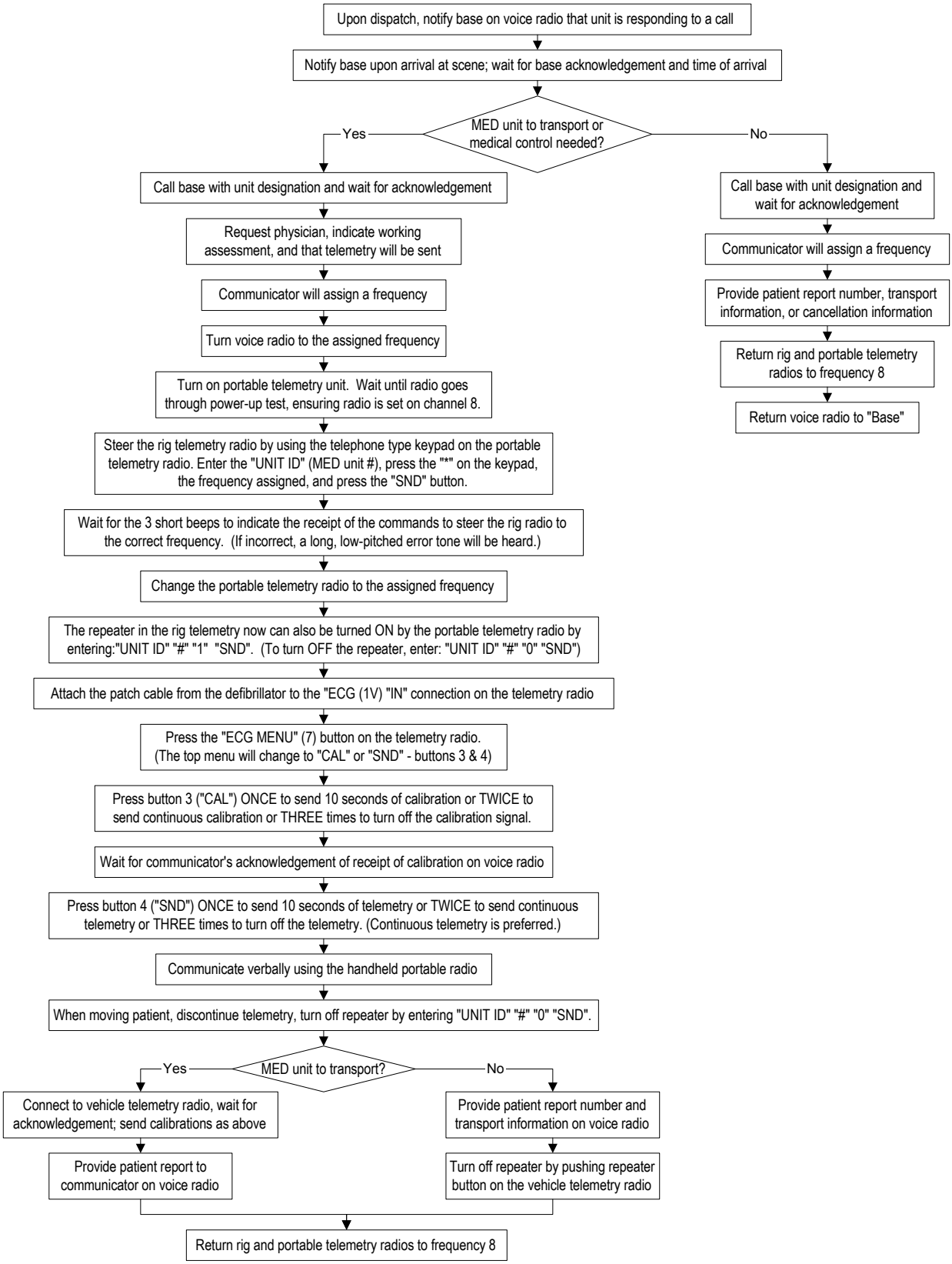
Assure IV lines are in place and all blood/fluid loss has been controlled
↓
Close valves and remove tubing
↓
Slowly deflate abdominal portion, 1/3 of the air at a time, monitoring vital signs and level of consciousness
↓
Slowly deflate one leg, then the other monitoring vital signs and level of consciousness
↓
If there is a decrease in blood pressure or increase in pulse, reinflate the PASG and reassess volume status

NOTES:

- Deflation should be stopped anytime the patient's systolic pressure falls more than 5 mmHg or pulse increases by more than 5 beats/minute or there is any change in level of consciousness.

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 9/12/01	**PRACTICAL SKILL**	Signature:
Revision: 3	**RADIO COMMUNICATION**	Page 1 of 1

Purpose: To establish contact with and communicate information to the paramedic Communications Center.



Initial:	MILWAUKEE COUNTY EMS	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	PRACTICAL SKILL	Signature:
Revision:	RADIO REPORT ELEMENTS	Page 1 of 1

TO BASE/RECEIVING HOSPITAL

Policy: Paramedics will provide a patient report to the base. The communicator will then forward the patient information to the receiving hospital. Some information collected is needed for all patients; some additional information is more helpful depending on the chief complaint and whether the patient is stable or not.

Necessary information on all patients given in the following order:

- Transporting unit
- Case number
- Receiving hospital
- Age and sex
- Chief complaint
- Most recent set of vitals
    - Complete BP is preferred; palpate if necessary
    - Pulse
    - Respiratory rate/breath sounds
    - Mental status (AVPU) or GCS if trauma patient
    - Pupils
- ECG rhythm
- Skin temperature, color, moisture (if applicable)
- IV – yes or no; if patient is unstable with no IV, indicate why there is no IV established
- O2
- SPO2, ETCO2
- Working Assessment (protocol followed)
- Pertinent medical history related to patient's present chief complaint (when relevant)
- Treatment/Interventions provided
    - Medications administered
    - Procedures initiated (c-spine precautions, etc.)
- Results of treatment/interventions
- Estimated time of arrival

"Nice to have" information:

- Patient's cardiologist (if patient is having a cardiac event)
- If enrolled in research protocol

Information that can wait until hospital arrival:

- Patient's medications – unless patient OD'd on one of them
- Patient's allergies – unless it's a medication the patient is likely to receive in the ED

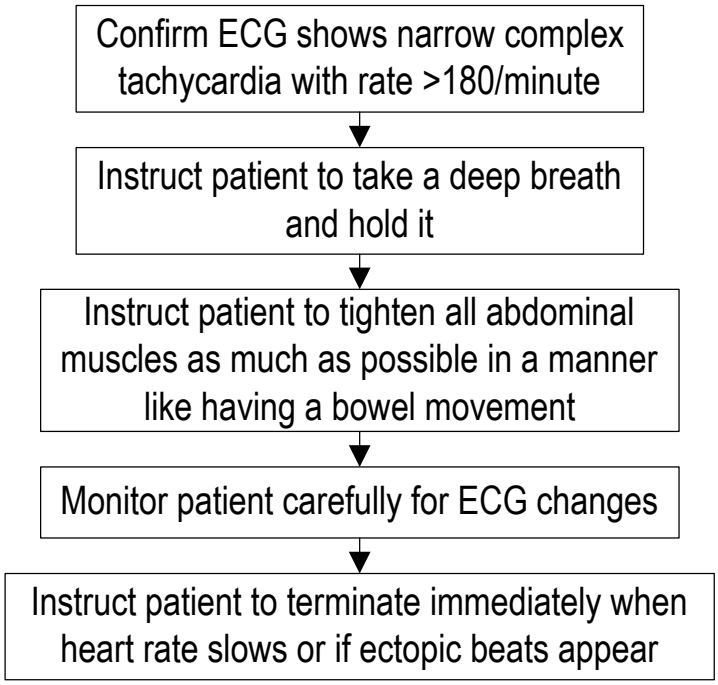
Sample patient report to the base:

Med unit: MED (#) requesting channel for report
Communicator: MED (#) go to frequency # and stand by
When acknowledged, MED unit will provide report as follows:
MED unit: We are en route to (receiving hospital) with a ___-year-old (male/female) complaining of ____. Patient has BP of __/__, pulse of __, and respiratory rate of __ with __(breath sounds). Mental status is __. ECG rhythm is __. ALS interventions include __ (IV, ET, medications, etc.). Procedures performed include __ (C-spine precautions, O2, etc.). Results __ (Patient has/has not improved). ETA is ___ minutes.

NOTE: This policy is also policy 10-2.4 in MCEMS Communications Manual.

Initial: 5/10/00	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**VAL SALVA MANEUVER**	Signature:
Revision:		Page 1 of 1

Purpose:		**Indications:**	
To terminate supraventricular tachyarrhythmia		Supraventricular tachyarrhythmia	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Slows the heart to allow for adequate refill time and greater cardiac output	None	Ectopic beats	Patient unable to follow instructions Patient is hemodynamically unstable



NOTES:

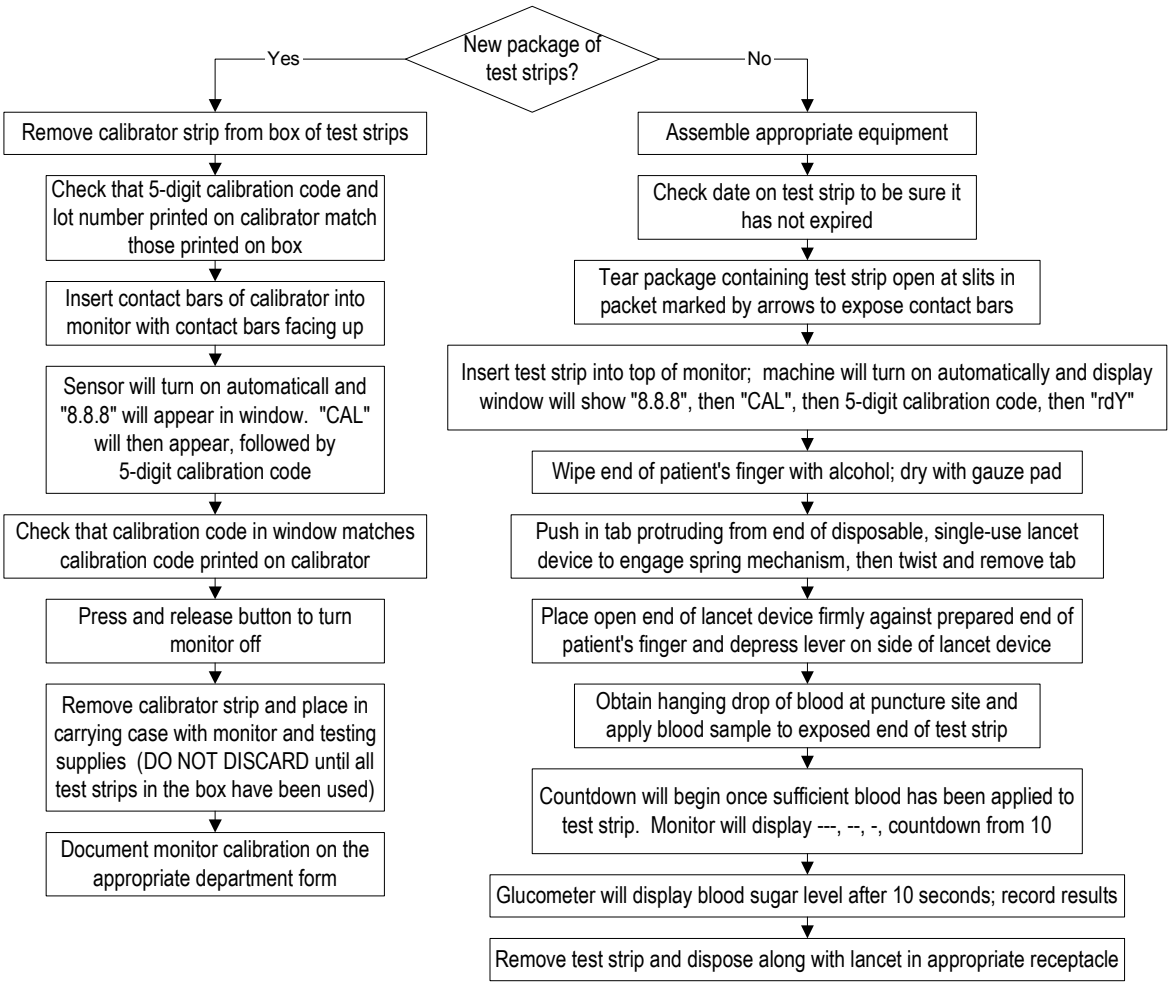
- The patient must be monitored during the procedure and the effort terminated immediately when the heart slows or if ectopic beats appear.
- The val salva maneuver is the only sanctioned vagal maneuver within the Milwaukee County EMS system.
- Patient's with unstable supraventricular tachycardias (patients who show signs of compromised cardiac output) should be treated with medication or synchronized cardioversion.

PATIENT ASSESSMENT

MONITORING USING THE PRECISION Xtra® MONITOR

Purpose:	Indications:
To obtain a blood sample and use the Precision Xtra® monitor for analysis of blood sugar level	Altered level of consciousness Known diabetic with signs/symptom of hypo or hyperglycemia

Advantages:	Disadvantages:	Complications:	Contraindications:
Provides accurate measurement of blood glucose level Quick and easy to use	Painful fingerstick Patients on oxygen therapy may have false low result Anemic patients may have false high result	None	Extreme environmental temperatures Severe dehydration Patients in shock

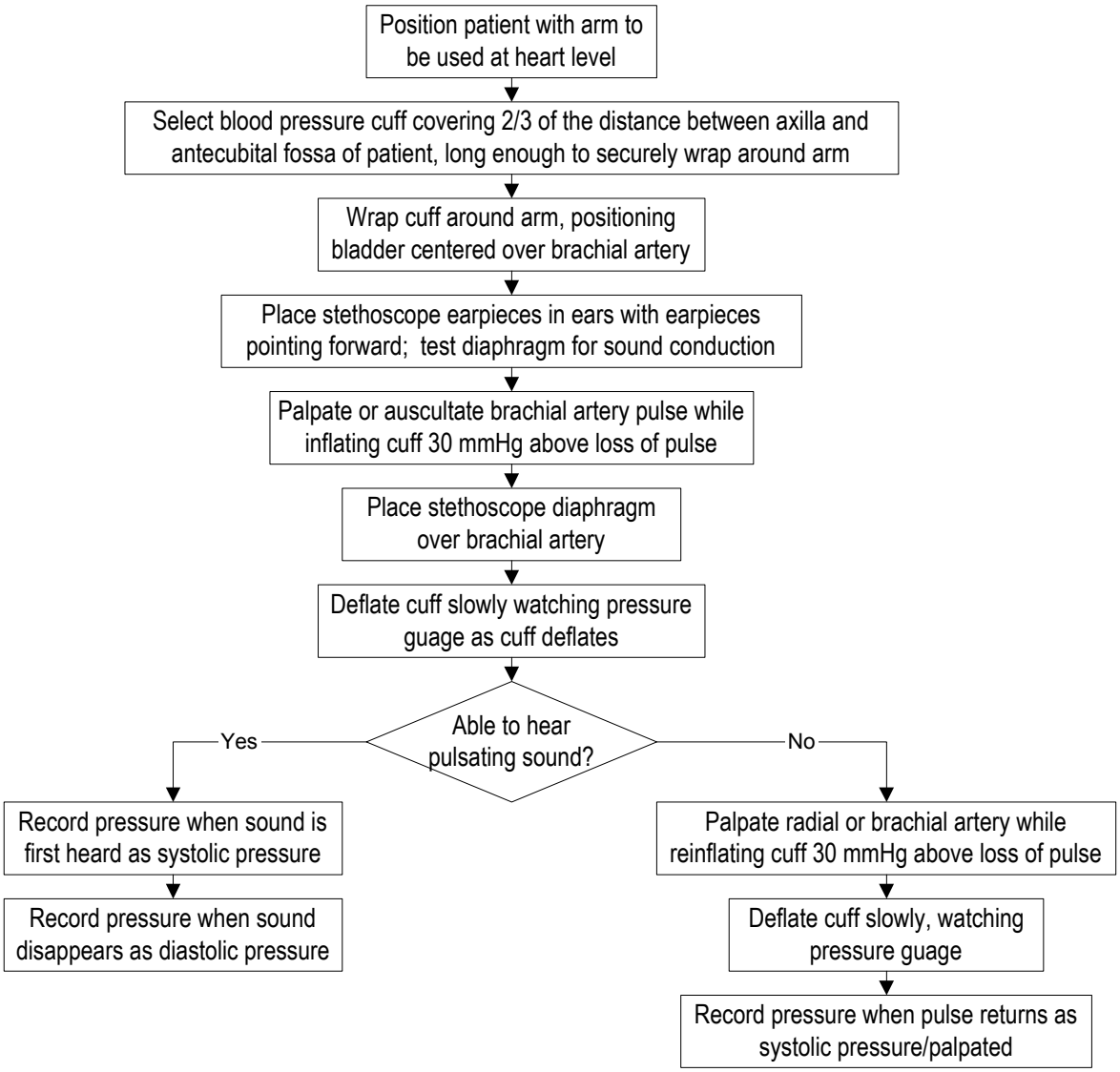


NOTES:

- The Precision Xtra® device must be recalibrated for every new box of strips opened. Recorded the calibration check as specified by department policy.

Initial: 9/94	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**BLOOD PRESSURE MEASUREMENT**	Signature:
Revision: 3		Page 1 of 1

Purpose:		**Indications:**	
To measure and monitor the systolic and diastolic blood pressure		All patients	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Multiple readings enable monitoring of patient's hemodynamic stability	Improperly sized cuff may give false reading	None	None

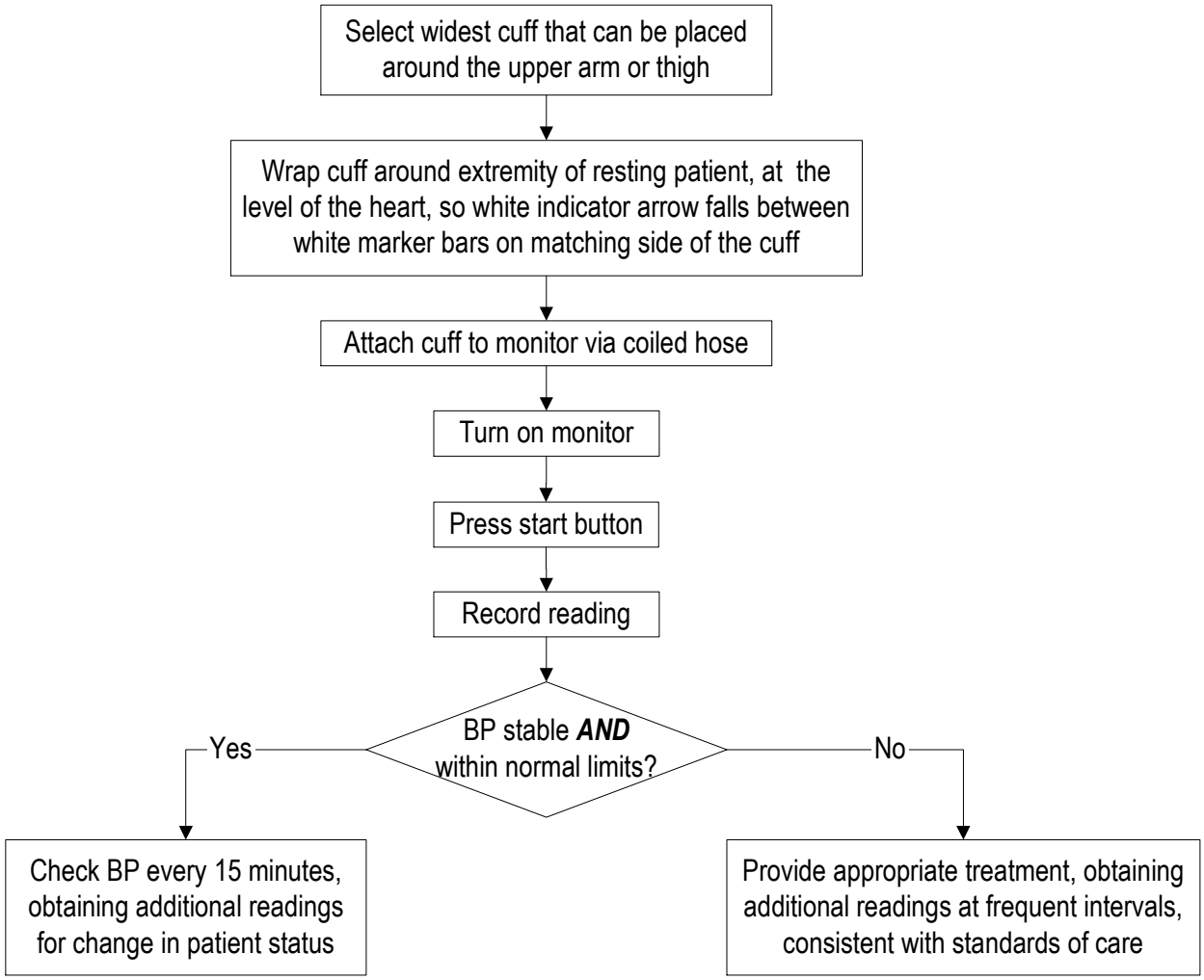


NOTES:

- A blood pressure cuff covering more than 2/3 of the upper arm will give a false low reading. A blood pressure cuff covering less than 2/3 will give a false high reading.
- Blood pressures should be auscultated whenever possible. The palpation method should only be used when environmental noise or conditions make it difficult to hear through the stethoscope.

MONITORING - NON-INVASIVE

Purpose: To obtain non-invasive blood pressure readings for assessment and monitoring of patients transported by EMS		**Indications:** Any patient over one year of age.	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Takes less time than a manual blood pressure; able to perform other tasks while obtaining blood pressure; able to track changes in blood pressure in response to interventions.	May underestimate diastolic blood pressure, especially in children.	None	Not to be used on limbs with suspected compromise in blood flow

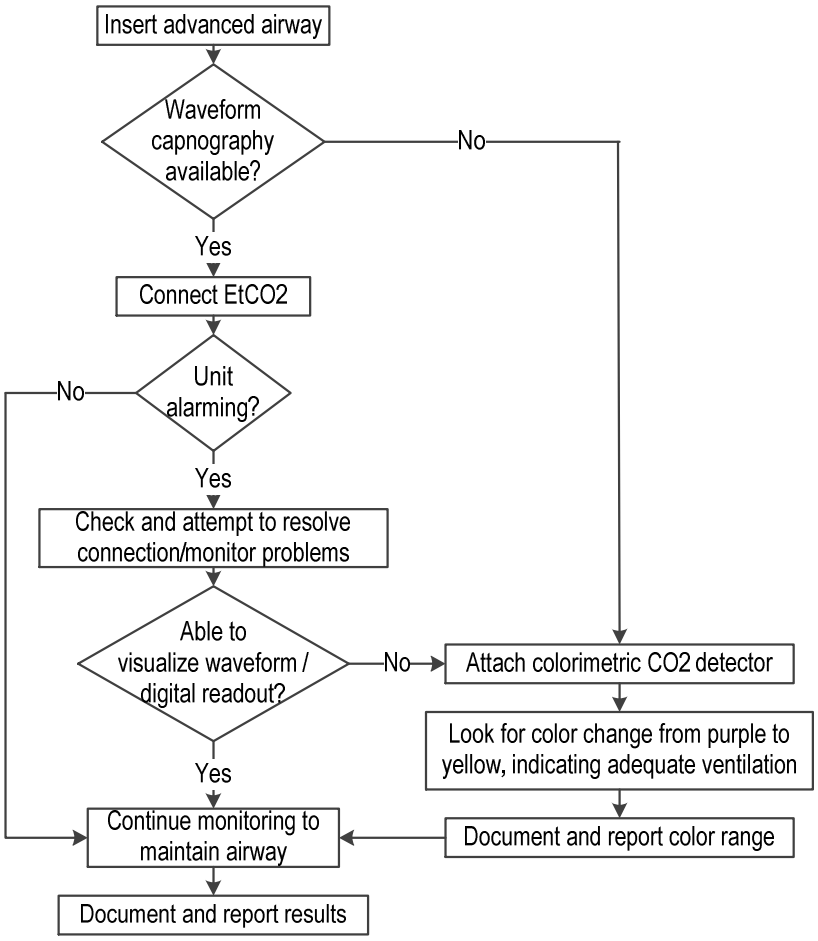


NOTES:

- When reading the blood pressure values on the display, keep in mind the following conditions can influence NIBP measurements: patient position; position of cuff relative to patient's heart; physical condition of the patient; patient limb movements; convulsions or tremors; very low pulse volumes; PVCs; vibration due to moving vehicles; improper cuff size or application.

Initial: 9/12/01	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised: 8/1/13	**END TIDAL CARBON DIOXIDE (EtCO2) MONITORING**	
Revision: 2		Page 1 of 1

Purpose:			**Indications:**
To confirm correct placement of an endotracheal tube; to confirm adequate ventilation through a non-visualized advanced airway.			Critically ill patient who is intubated with an endotracheal tube or non-visualized advanced airway.
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Confirms delivery of supplemental oxygen to the patient's lungs	None	Inaccurate reading due to displacement of ETT or inadequate ventilation through a non-visualized advanced airway	None

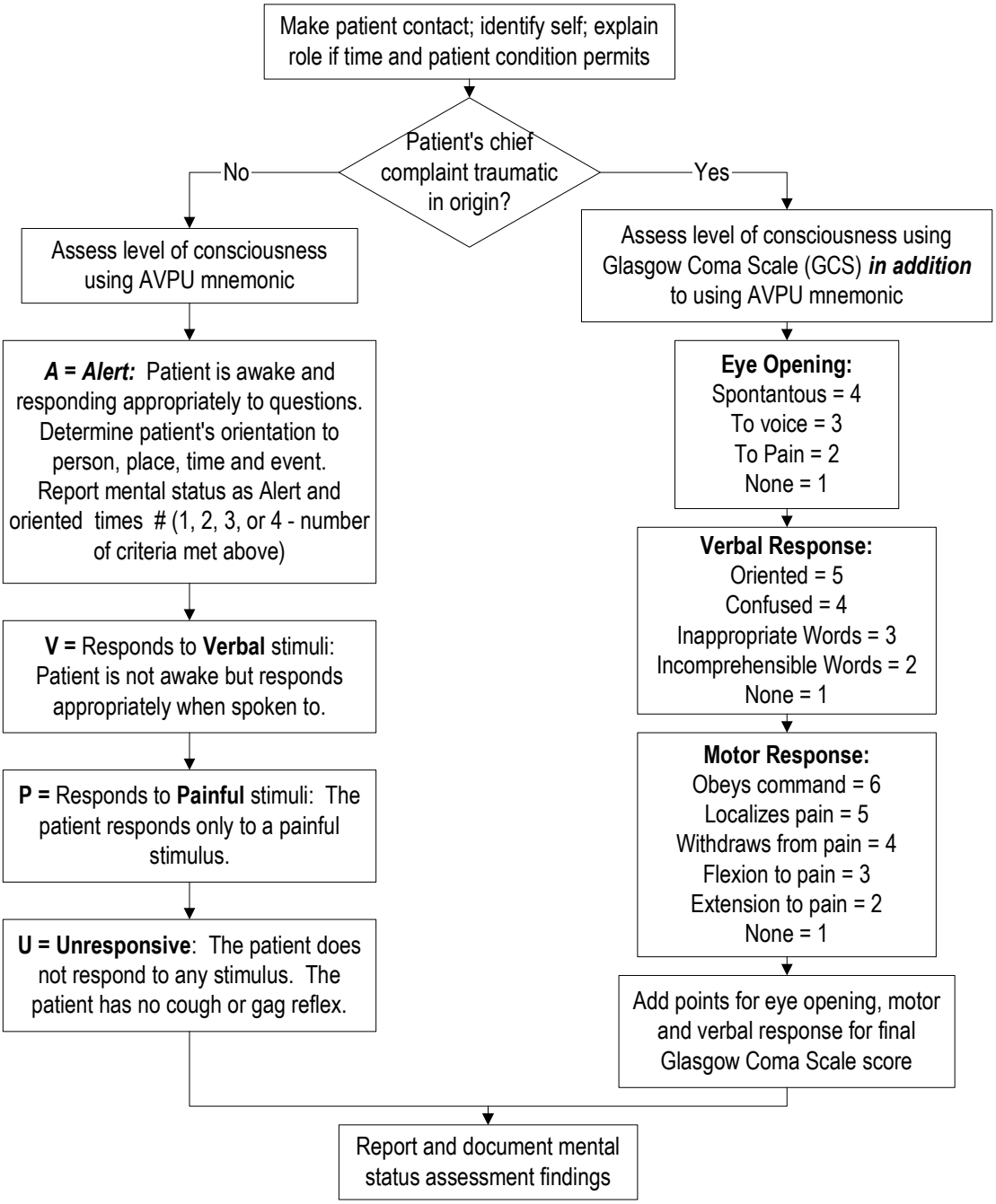


NOTES:

- EtCO2 must be used to confirm placement and adequate ventilation with all advanced airways.
- A normal EtCO2 reading is between 33 and 43 mmHg.
- The EtCO2 waveform can be used as a guide to CPR compressions and return of spontaneous circulation.
- Treat ETCO2 as a vital sign. Minimally, the value should be recorded immediately after airway placement (system standard is within 1 minute), after patient movement and upon arrival at the hospital (or when resuscitative efforts are stopped).

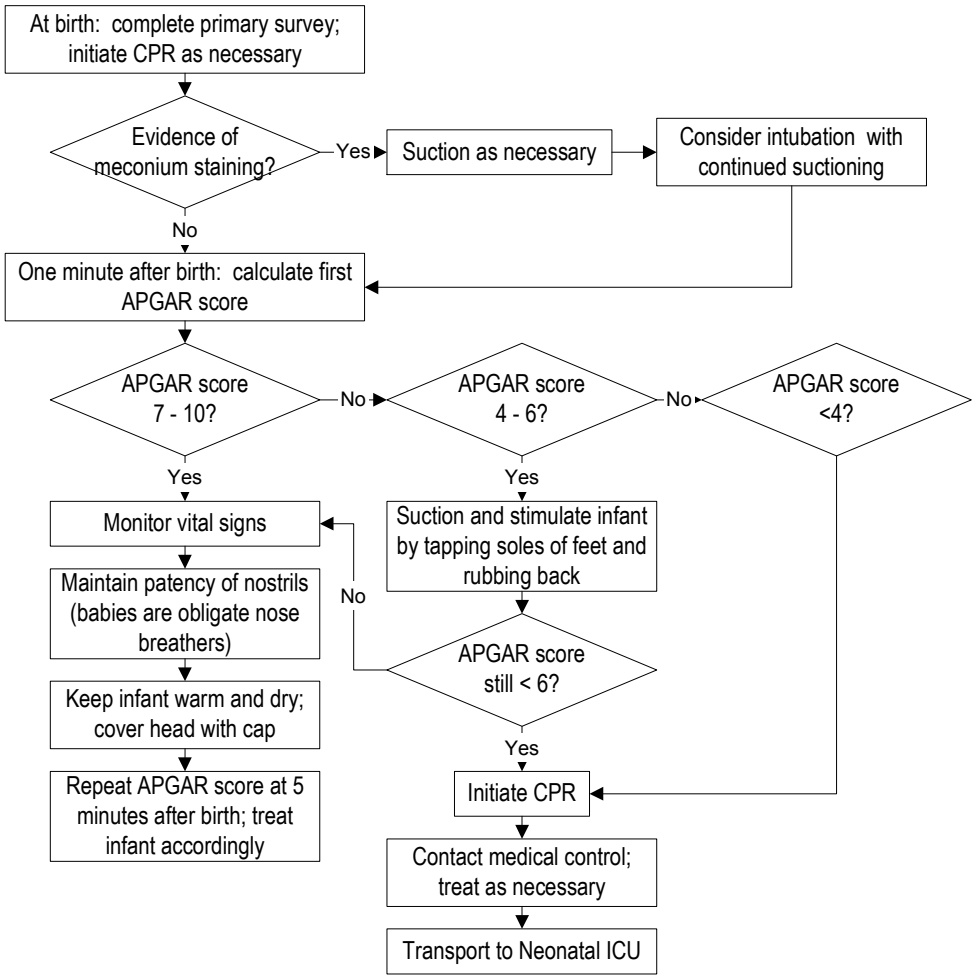
Initial: 10/15/08	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**LEVEL OF CONSCIOUSNESS ASSESSMENT**	Signature:
Revision:		Page 1 of 1

Purpose:		**Indications:**	
To enable providers to consistently assess and document a patient's level of consciousness		All patients will have mental status assessed	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Simple, standardized, consistent units AVPU assesses mental status of all patients Glasgow Coma Scale (GCS) is an additional tool providing indication of clinical outcome in a patient with a ***traumatic*** chief complaint	None	None	None



Initial: 9/92	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**NEWBORN CARE AND ASSESSMENT**	Signature:
Revision: 4		Page 1 of 1

Purpose:	**Indications:**
To assess and care for a newborn infant	Newborn infant



APGAR SCORE

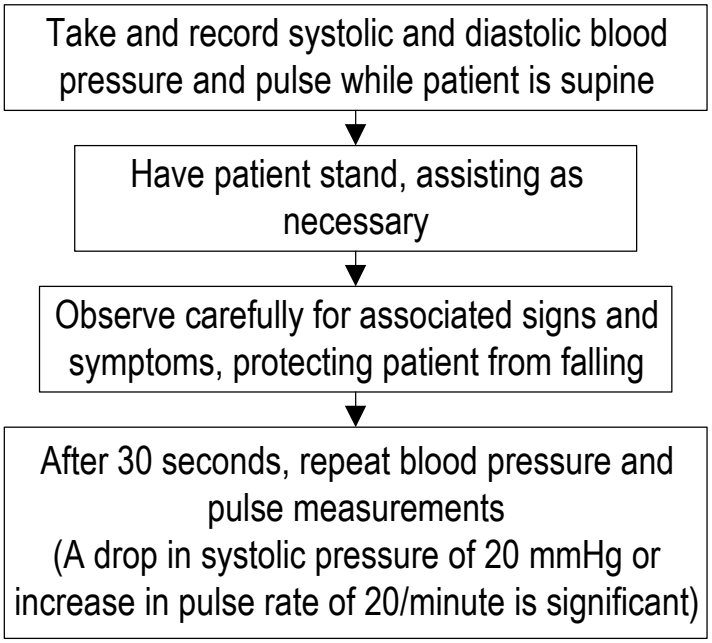
CRITERIA	**O POINTS**	**1 POINT**	**2 POINTS**
Appearance (color)	Cyanotic	Body pink, extremities cyanotic	Pink
Pulse	Absent	< 100/minute	>100/minute
Grimace (response to suctioning)	None	Weak	Vigorous
Activity (muscle tone)	Limp	Weak	Vigorous
Respiratory Effort	None	Slow, irregular	Strong, crying

NOTES:

- If it's necessary to position the newborn on the back, pad the shoulders to prevent airway obstruction.
- If newborn's pulse is less than 80, begin chest compressions at 100/minute.
- The umbilical vein should be used for IV access if needed.

Initial: 7/94	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**ORTHOSTATIC BLOOD PRESSURE MEASUREMENT**	Signature:
Revision: 3		Page 1 of 1

Purpose:			**Indications:**
To measure postural blood pressure changes in patients with suspected hypovolemia.			Patients with suspected hypovolemia.
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Multiple readings enable monitoring of patient's hemodynamic stability	Improperly sized cuff may give false reading	Change in position may cause hypotension with associated symptoms	Supine systolic blood pressure <90

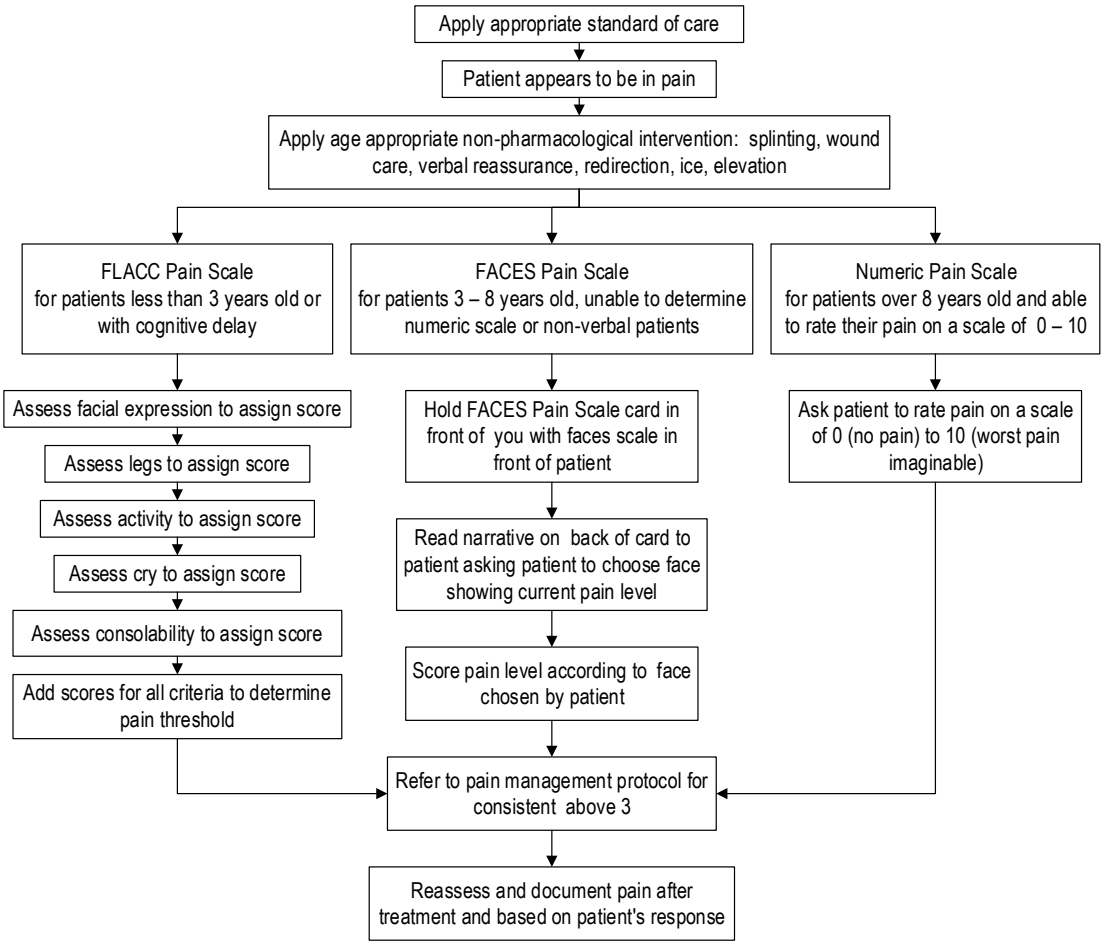


NOTES:

- Orthostatic (postural) hypotension is a drop in both systolic and diastolic blood pressure with a change from supine to sitting or standing position. It is generally accompanied by dizziness, blurred vision and/or syncope.

Initial: 5/21/08	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved: M. Riccardo Colella, DO, MPH, FACEP
Revised: 11/1/14	**PAIN ASSESSMENT**	Signature:
Revision: 1		Page 1 of 1

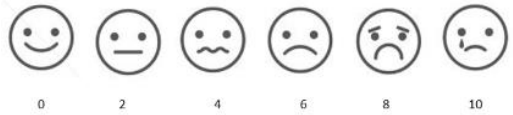
Purpose:		**Indications:**	
To enable providers to assess a patient's pain severity		For all patients with pain	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Simple, standardized, reliable nonintrusive, consistent units Easy to administer and score Age-appropriate	Varies from patient to patient May be difficult for patient to rate their pain	None	None



FLACC Pain Scale

Criteria	Score = 0	Score = 1	Score = 2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, uninterested	Frequent to constant quivering chin, clenched jaw
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting, back and forth, tense	Arched, rigid or jerking
Cry	No cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or being talked to, distractible	Difficult to console or comfort

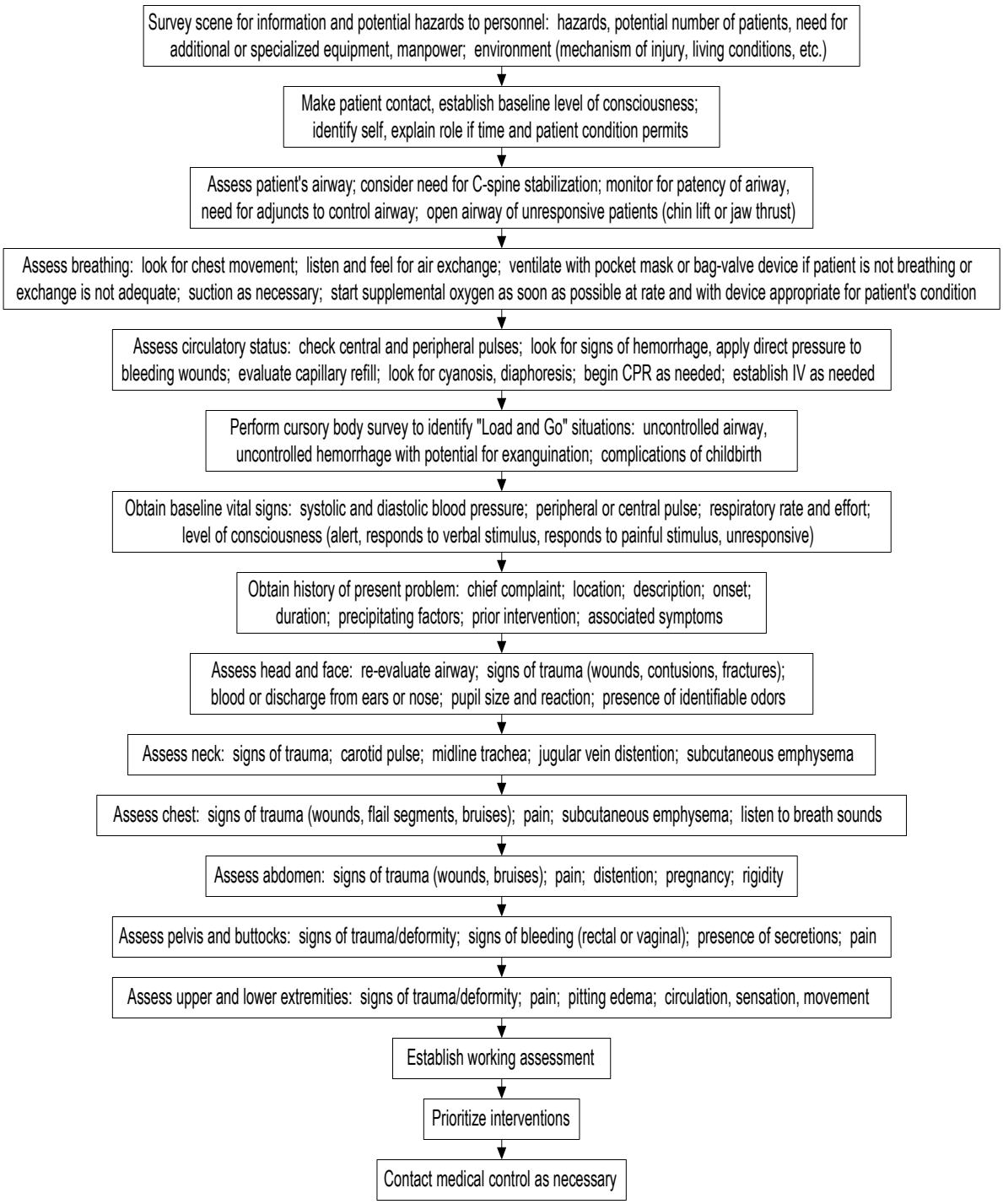
Faces Pain Scale



Numeric Pain Scale

Initial: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 5/21/08	**PRACTICAL SKILL**	Signature:
Revision: 3	**PHYSICAL ASSESSMENT**	Page 1 of 1

Purpose:	**Indications:**
To complete a primary and secondary survey of patient To identify life threatening or potentially life-threatening conditions To establish a working assessment To prioritize treatment	All patients



Initial: 5/21/08	**MILWAUKEE COUNTY EMS PRACTICAL SKILL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**PULSE OXIMETRY ($Sp0_2$) MONITORING**	Signature:
Revision:		Page 1 of 1

Purpose: For measurement of oxygen saturation of arteriolar hemoglobin at a peripheral measurement site.		**Indications:** For use in adult, pediatric, and neonatal patients.	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Allows continuous noninvasive monitoring.	Could have erroneous readings in some patient conditions.	None	None

Place selected digit over sensor window, making sure sensor cable runs over the top of the patient's hand. The fleshiest part of the digit should cover the detector window in the lower half of the sensor.

↓

Ensure sensor cable and SpO2 connector at the back of the E-Series unit are connected.

↓

Turn selector switch to MONITOR. The SpO2 parameter box will appear momentarily on the screen.

↓

Verify sensor's red LED is on. Oximeter is now fully operational. (A dashed line is displayed in SpO2 field until a pulse is detected. Once measurement has been established, saturation values are displayed in numeric field.)

↓

Ensure appropriate oxygen saturation values are displayed and the signal strength bar indicates the presence of a strong signal associated with each heartbeat.

↓

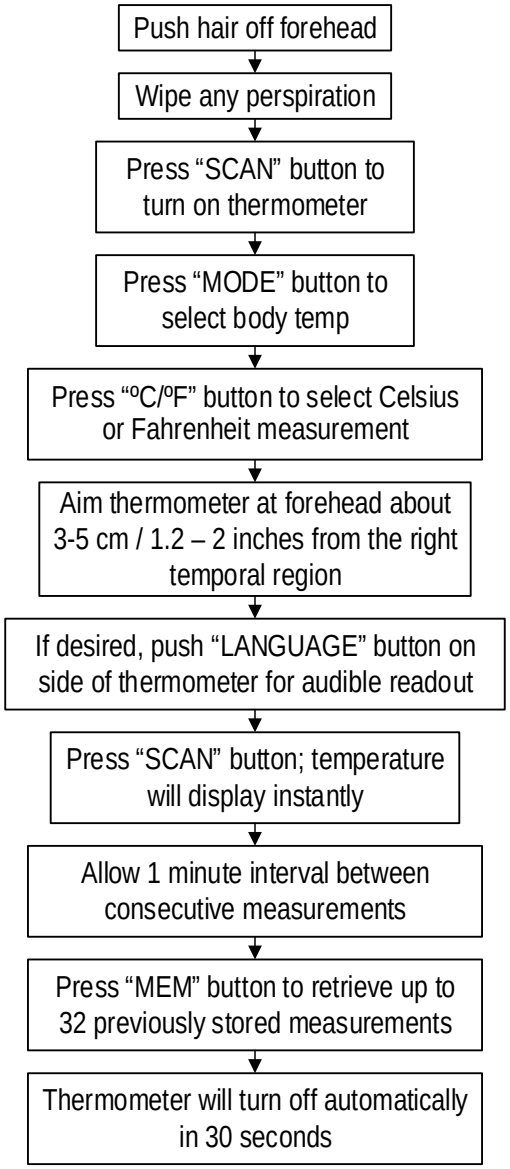
If ECG leads are not attached, patient's pulse rate as measured by the SpO2 sensor is displayed as the Heart Rate (HR) in the ECG field and the heart symbol does not flash.

NOTES:

- Do not attach the SpO_2 sensor to a limb being monitored with a blood pressure cuff or with restricted blood flow.
- Patient conditions such as cold extremities or smoke inhalation may result in erroneous oxygen saturation measurements. Assess the patient for other signs/symptoms of adequate oxygenation.

Initial: 3/1/15	MILWAUKEE COUNTY EMS PRACTICAL SKILL TEMPERATURE MEASUREMENT	Approved: M. Riccardo Colella, DO, MPH, FACEP
Reviewed/revised:		
Revision:		Page 1 of 1

Purpose:		Indications:	
To measure patient's temporal artery temperature			
Advantages:	Disadvantages:	Complications:	Contraindications:
Contact free measurement Digital and/or audible instant readout More precise than other methods Better tolerated than other methods	None	None	None



NOTES:

- Thermometer may not be as accurate if used outside the ambient temperature range of 10ºC/ 50ºF and 40ºC/ 104ºF or if relative humidity is higher than 85%

OPERATIONAL POLICIES

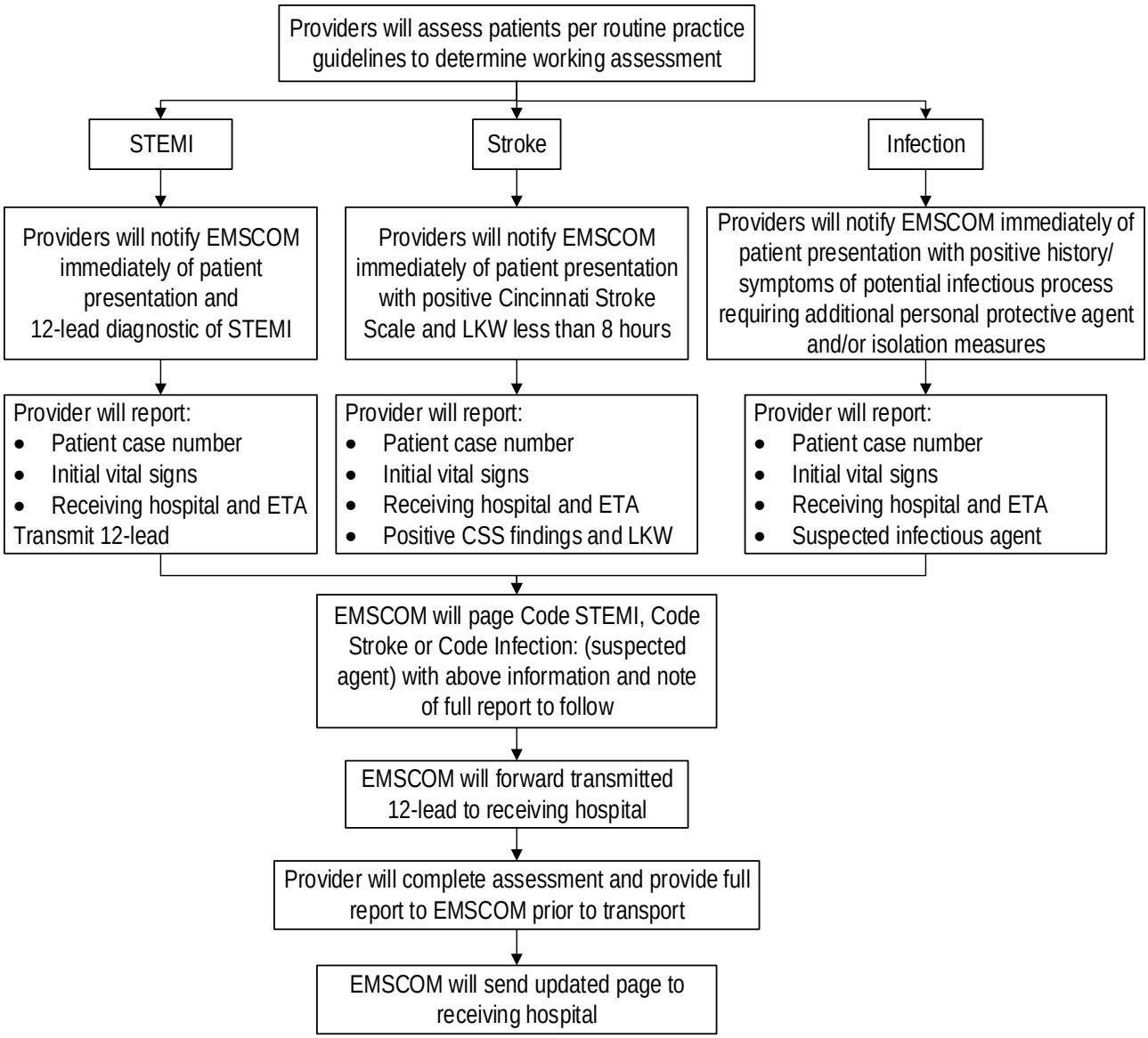
POLICY: An Emergency Medical Technician is authorized to administer prescription and controlled medications and possess needles, syringes and administration devices as outlined by Chapter HFS 110 of the Wisconsin Administrative Code. The authorization is only valid when the EMT is on duty, assigned to a fire department emergency response vehicle under the direction and medical control of the Milwaukee County EMS Medical Director.

- A minimum of two paramedics are required to be present at the scene to practice at the paramedic level.
- If a single paramedic is assigned to a Paramedic First Response vehicle, that paramedic may practice to the level of an EMT-Intermediate as outlined in Chapter HFS 110 of the Wisconsin Administrative Code.
- All medications will be administered and documented as outlined in system policy.
- Federally controlled medications will be tracked as outlined in system policies and procedures.

POLICY:
Milwaukee County EMS Communications will provide early notification of the impending arrival of patients with the following working assessments:

- Suspected STEMI as identified by patient presentation and a diagnostic 12-lead reading ***STEMI***
- Suspected stroke as identified by a positive Cincinnati Stroke Scale and last known well (LKW) time less than 8 hours
- Suspected infectious process requiring additional personal protective equipment or isolation measures

Early notification will enable hospitals to review the pre-arrival information and make internal response decisions based on the information forwarded by the field providers and EMSCOM.



Code-Stroke Patients {for patients with (+) Cincinnati Stroke Scale AND LKW (<+)8hrs}

1.) EMS provider function (s)

- Patients will be assessed per routine medical assessment guidelines
- Upon determining that the patient is suffering an acute stroke [defined as LKW < 8 hrs & a positive (+) Cincinnati Stroke Scale], the EMS crew should immediately notify MC EMS Communications Center that they have a "Code Stroke" and report only the following three data points;
    1. patient case number
    2. patient vital signs
    3. receiving hospital and ETA
- Full medical report should not be delivered at this time, but should be reported when complete patient assessment and care has been provided

2.) MC EMS Communication Center staff function (s)

- Send a "Code STEMI/STROKE" alert page for a "Code Stroke" to the receiving hospital [for patients with (+) Cincinnati Stroke Scale AND LKW (<=)8hrs]

3.) Receiving hospital function (s):

- Will receive a stat page with the following language; "Code Stroke (Med #) has indicated a Stroke patient in the field and will be transporting to your facility. Vitals- BP, Respirations and ETA. (If vital signs are not available from the EMS provider, the phrase "Vitals –will follow" will be used.) Complete report will be paged shortly.

This alert page will allow receiving facility to alert their staff and proceed with hospital protocols

***BLS units will continue to contact receiving hospitals using their current communication processes.

***Communications for patients with s/s of a stroke with a LKW time of greater (>) than 8 hrs will be managed in the routine manner.

POLICY: Biennial benchmarks have been defined and established to assure that each provider has the opportunity to adequately perform and maintain proficiency in their skills. Benchmarks will be used to assist the EMS Medical Director in evaluating the performance and expertise of the system providers.

Benchmark tracking will begin at the time of licensure and will cover a specific 2-year period.

Benchmark reports will be generated semi-annually and distributed to each active provider. This will enable providers to self-monitor the status of their benchmarks.

Benchmarks will be collected internally from the EMS database. The Medical Director will also accept validated documentation of outside benchmarks on a case-by-case basis.

Any active full- or limited-practice provider not meeting the biennial benchmarks will be required to demonstrate competency in the skills where they fall short of their benchmarks to maintain practice privileges. Special Reserve paramedics are strongly encouraged to maintain their benchmarks.

Questions regarding the accuracy of a provider's benchmarks should be forwarded to the Quality Manager for review.

Criteria definition and requirements:

Event	Definition	24 Month Benchmark	
		Paramedic	IV-Tech
Patient contact	Each provider on scene is credited with one patient contact.	320	180
Team leader / Report writer	Acquires the patient's history, documents and directs overall scene care.	70	24
Endotracheal intubation	Successful placement, oral or nasal route	2	0
Intravenous start	Successful placement, peripheral or external jugular location	36	36
Medication administrations	By any route: IV, IO, IM, IN, ET, oral, aerosol, rectal	70	. 31
12-lead ECG	Successful acquisition, interpretation, and transmission of a 12-lead ECG to the MC EMS Communications Center	32	0

IV= Intravenous; IO= Intraosseous; IM = Intramuscular; IN = Intranasal; ET= Endotracheal; ECG = Electrocardiogram

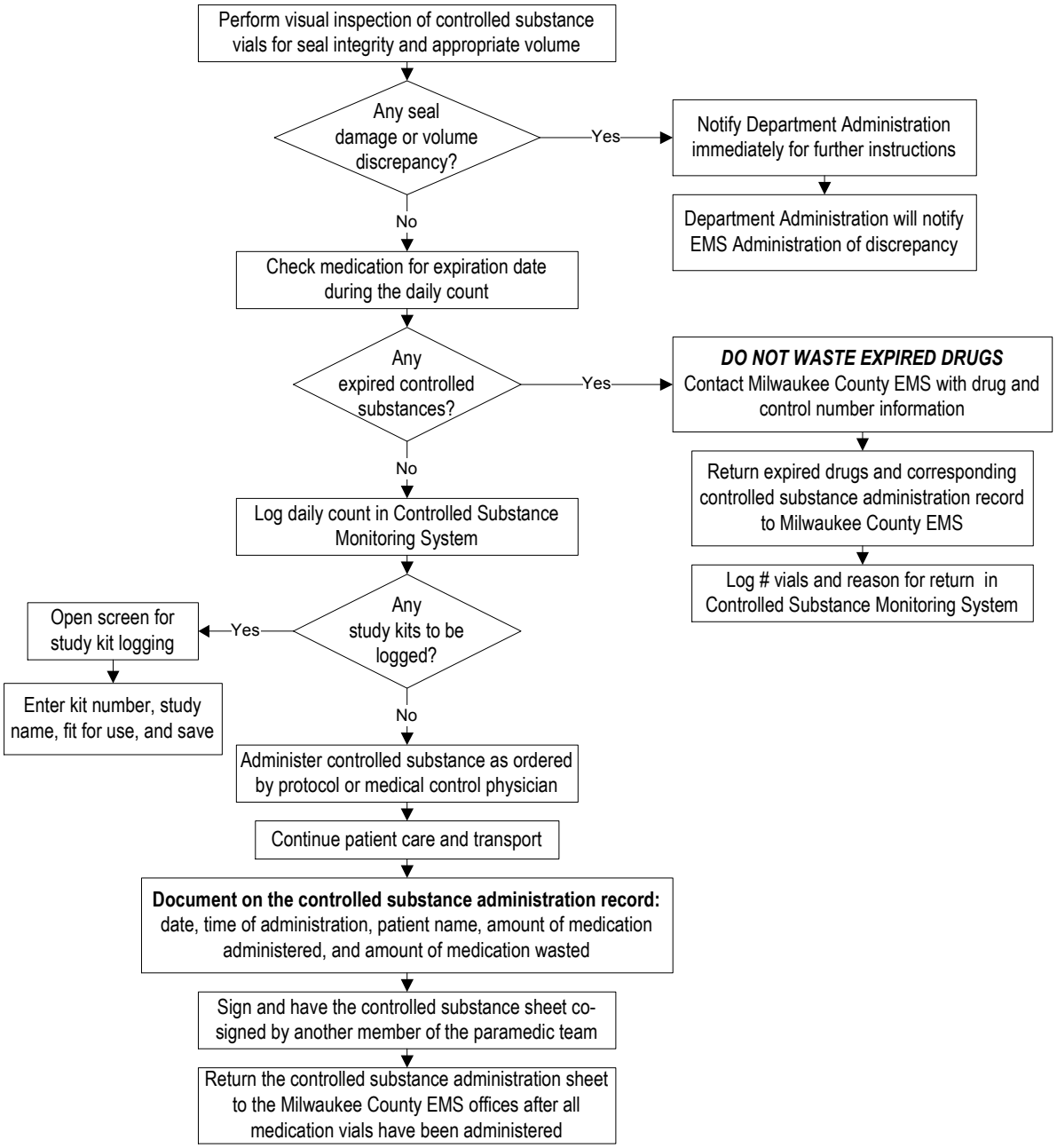
POLICY: Milwaukee County EMS providers will apply usual Standards of Care, Medical Protocols, Standards for Practical Skills, and Operational Policies set forth by Milwaukee County EMS to patients who have been subjected to the use of a conducted energy devices (also known variably as "conducted energy weapon", "electric control device", "electronic restraint", "tazer", "taser", or "stun gun").

I. Need for Medical Evaluation
   A. Available scientific evidence suggests that not all patients subjected to a conducted energy device will require an EMS evaluation.
   B. If requested/called by law enforcement, EMS providers will conduct a patient evaluation applying usual standards of care, protocols, skills, and policies.

II. Need for Transport to Receiving Hospital
   A. Available scientific evidence suggests that not all patients subjected to a conducted energy device will require hospital evaluation.
   B. Patients will be transported if any of the following situations apply:
      1. Any patient age 12 years or younger
      2. Pregnant patients greater than or equal to 20 weeks in gestation
      3. Any abnormality of vital signs (see Standard of Care – Normal Vital Signs, with the exception that adult blood pressure of over 160/100 or below 100/70 is considered abnormal in these circumstances)
      4. Use of more than 3 device shocks on a patient
      5. Barbs that have hit in the following areas
         i. Eyes/Orbits
         ii. Neck
         iii. Genitalia
      6. Significant trauma or mechanism of injury related to events before, during, or after device application (e.g. falls, MVC)
      7. Burns, if greater than mild reddening of the skin between the barbs
      8. Barbs that cannot be removed using usual methods (refer to Standards of Care – Conducted Energy Device Barb Removal)
      9. Persistent agitated behavior that is not responsive to verbal de-escalation
      10. History of coronary disease, CHF, cardiac arrhythmias, or AICD/pacer
      11. Other abnormal or unusual signs or symptoms persisting after shock (for example, numbness, paralysis, shortness of breath, chest pain, dizziness, loss of consciousness, profuse sweating, or others)
   C. Patients will also be transported if, in the judgment of EMS or law enforcement, further evaluation is warranted.
   D. Transport can occur at the level deemed appropriate by on-scene EMS personnel (follow usual protocols for BLS versus ALS level transport).

DOCUMENTATION AND INSPECTION

POLICY: Administration of controlled substances will be uniformly documented to accurately reflect usage. Controlled substances will be visually inspected for seal damage and volume discrepancies.



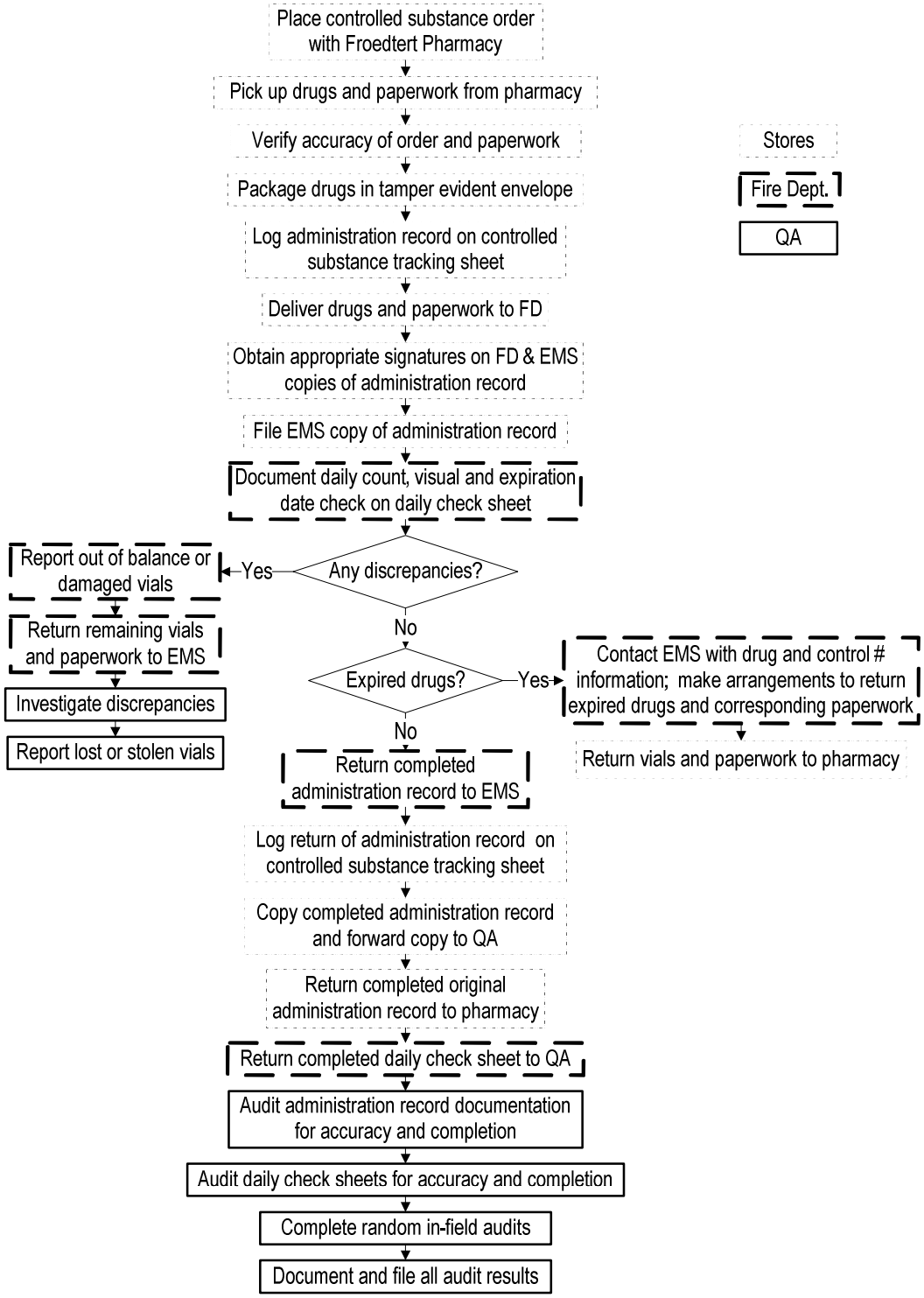
NOTES:

- Attempts should be made to return controlled substances expiring within 2 weeks to Milwaukee County EMS. The drugs can be returned to the pharmacy for use in the hospital prior to expiration.
- MC EMS will perform routine visual checks as well as auditing each MED unit to assure documentation is complete and accurate.
- Records will also be reconciled with the FMLH pharmacy at the end of the year.

Initiated: 2/16/11	**MILWAUKEE COUNTY EMS**	Approved by: Kenneth Sternig, MS-EHS, BSN, EMT-P
Reviewed/revised:	**OPERATIONAL POLICY**	Reference:
Revision:	**CONTROLLED SUBSTANCE**	Page 1 of 1

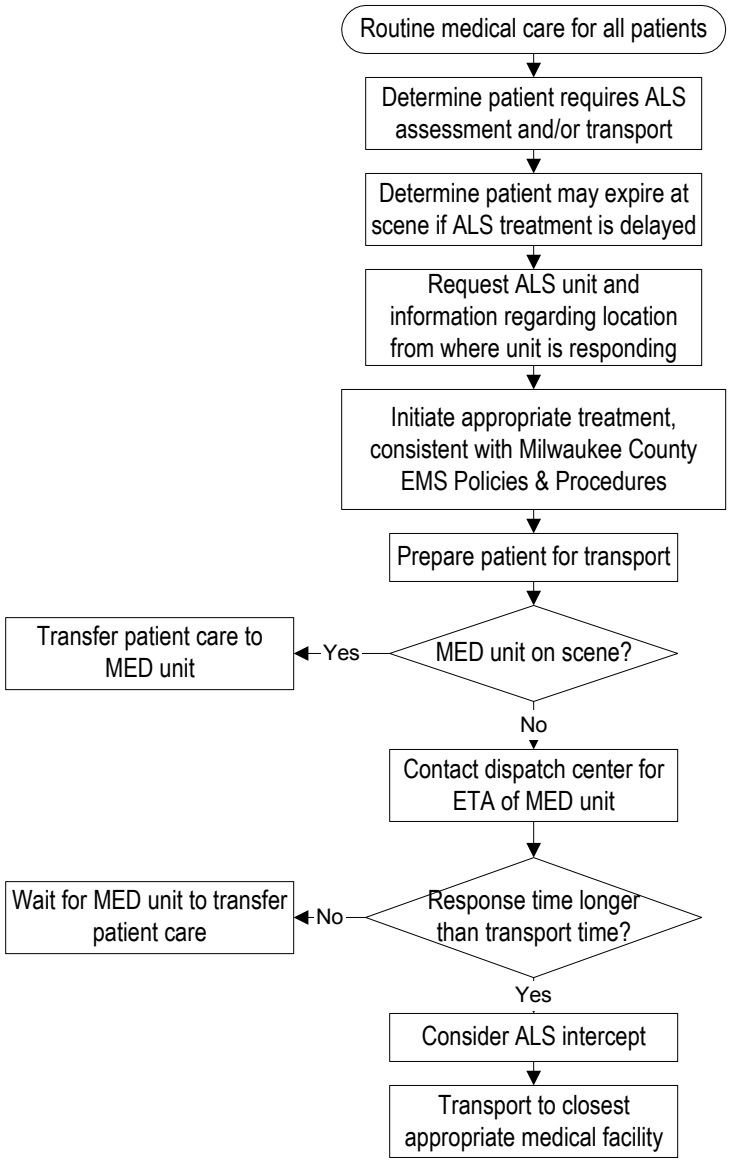
MANAGEMENT BY AREA OF RESPONSIBILITY

POLICY: Management of controlled substances within the Milwaukee County EMS system is a collaborative effort of several system stakeholders to ensure compliance with system and federal standards.



Initial: 12/6/00	**MILWAUKEE COUNTY EMS OPERATIONAL POLICY**	Approved by: Patricia Haslbeck, MSN, RN
Reviewed/revised:	**DEVIATION FROM ALS EVALUATION (LOAD AND GO)**	Approved by: Ronald Pirrallo, MD, MHSA
Revision:		Page 1 of 1

POLICY: If the EMTs on scene determine that a patient may expire on scene if ALS treatment is delayed, the EMTs may opt to Load & Go transport the patient to the closest appropriate open medical facility.



NOTES:

- Potential Load & Go situations exist if:
  - The patient has an uncontrolled airway
  - The patient is bleeding to death
  - The patient has penetrating trauma to the thorax or abdomen
  - The patient is experiencing complications of childbirth
- Documentation on the run report ***must*** support Load & Go transport decision

PATIENT CARE RECORD COMPLETION

POLICY: The EMS Provider will complete, in a timely manner, an EMS Patient Care Record on all patients assessed or examined. Per State law DHS 110.34(7), a copy of the completed record must be made available to the receiving hospital upon delivering a patient and a final report must be done within 24 hours.

- Documentation will include all medical information and all medical care provided entered in the appropriate places in the Patient Care Record (PCR). The treatment/triage decision must be clearly supported. For the paper PCR, see the *Handbook for Completing the Scannable EMS Report Form* for specific instructions. For the electronic PCR, see your department's completion instruction manual.

- In a tiered EMS response situation involving two different levels of service, where one level arrives before the other or if patient care is transferred, both responding units must each complete and submit to MC EMS a PCR identifying their vehicle, unit type, response times, personnel and any assessment/treatment rendered. If both levels arrive together, only one PCR is required, completed by the appropriate unit per standard of care with identification of the other responding vehicles on the scene in the PCR.

- Any Advanced Life Support (ALS) assessment or intervention by Paramedic First Response (PFR) unit or ALS unit, including ECG rhythm interpretation, requires completion of the PCR by the PFR or the ALS team.

- If a Basic Life Support (BLS) unit, Intermediate Life Support (ILS) *(EMT-IV Technician)* unit, or PFR unit is transporting the patient, for paper PCR, the ALS record documentation will be completed prior to the departure of the paramedic unit and the transporting unit from the scene. The time of the turnover must be documented. The criteria of the Standard of Care: Transfer of Care (Turn-Down) is required. For ePCR, since no record is exchanged between units, the BLS/ILS/PFR unit may start transport prior to the ALS record completion, but the ALS completion expectation is the same. The ALS unit must complete their documentation and fax/post to the receiving hospital prior to going back into service.

DEPARTMENTS USING THE ELECTRONIC PCR (ePCR)

Both BLS/ILS/PFR and ALS fire department responding vehicles in Milwaukee County complete their patient care record documentation on their own ePCR Toughbook or Tablet per above policy. If two PCRs are created, both records will be posted and saved permanently in the database.

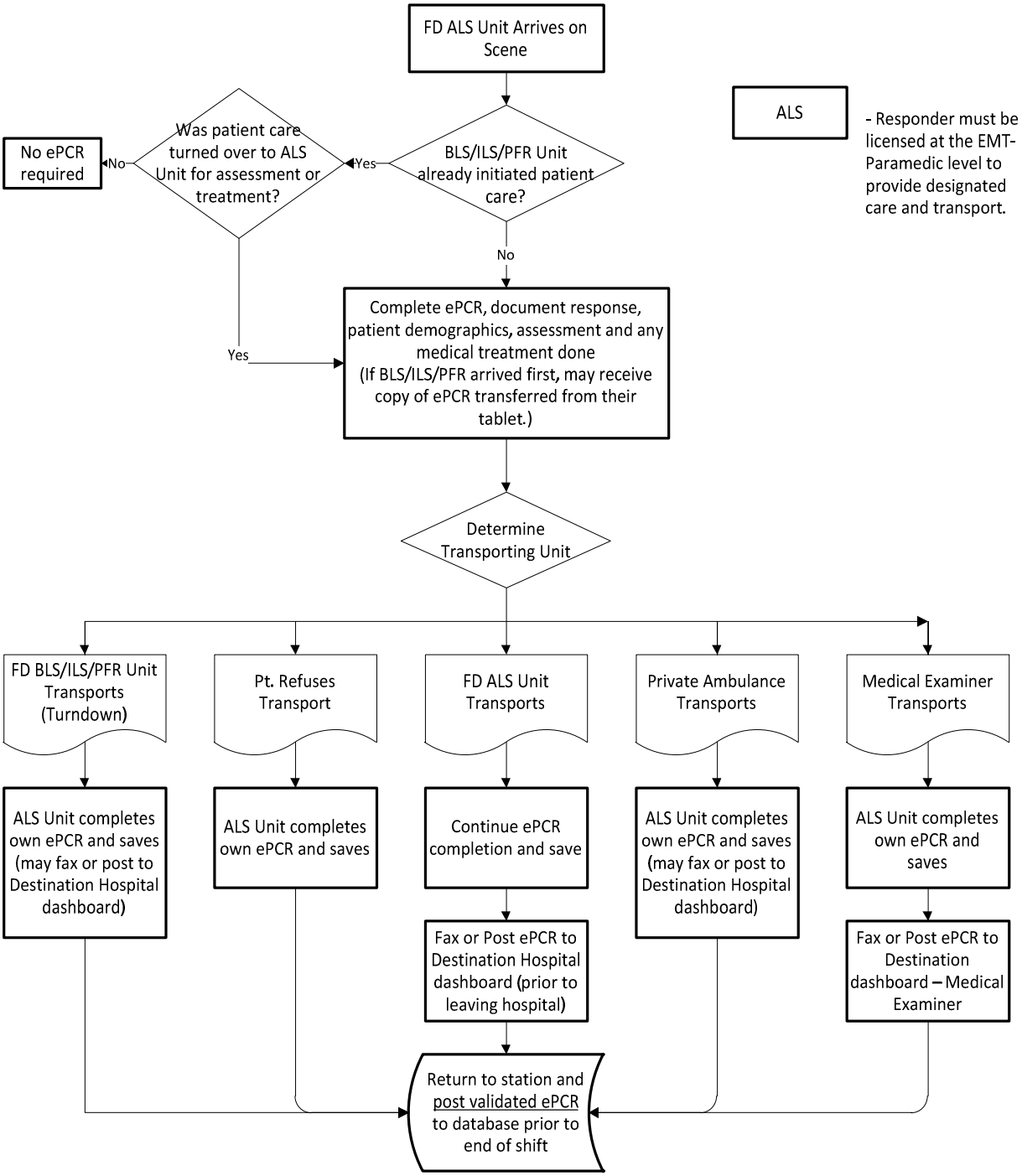
Transferring ePCR Information between Units

The first arriving fire department EMS unit who assesses the patient initiates their ePCR. If the run is an ALS call, typically the BLS/ILS/PFR unit will arrive first, document any patient assessment and treatment. When the ALS unit arrives, the BLS/ILS/PFR unit may transfer a copy of their record to the ALS unit who will then only need to add their own assessment and treatment. All data fields will transfer except the Responding Vehicle Identifiers, Unit Type, Crew, and Response Times. (The BLS/ILS/PFR unit must still finish their record and post to the database.) In addition, if the ePCR is transferred between two different municipalities, the receiving municipality will replace the Fire Incident Number data field on their Toughbook/Tablet with their own department number.

PATIENT CARE RECORD COMPLETION

ePCR TIERED RESPONSE DOCUMENTATION PROCESS

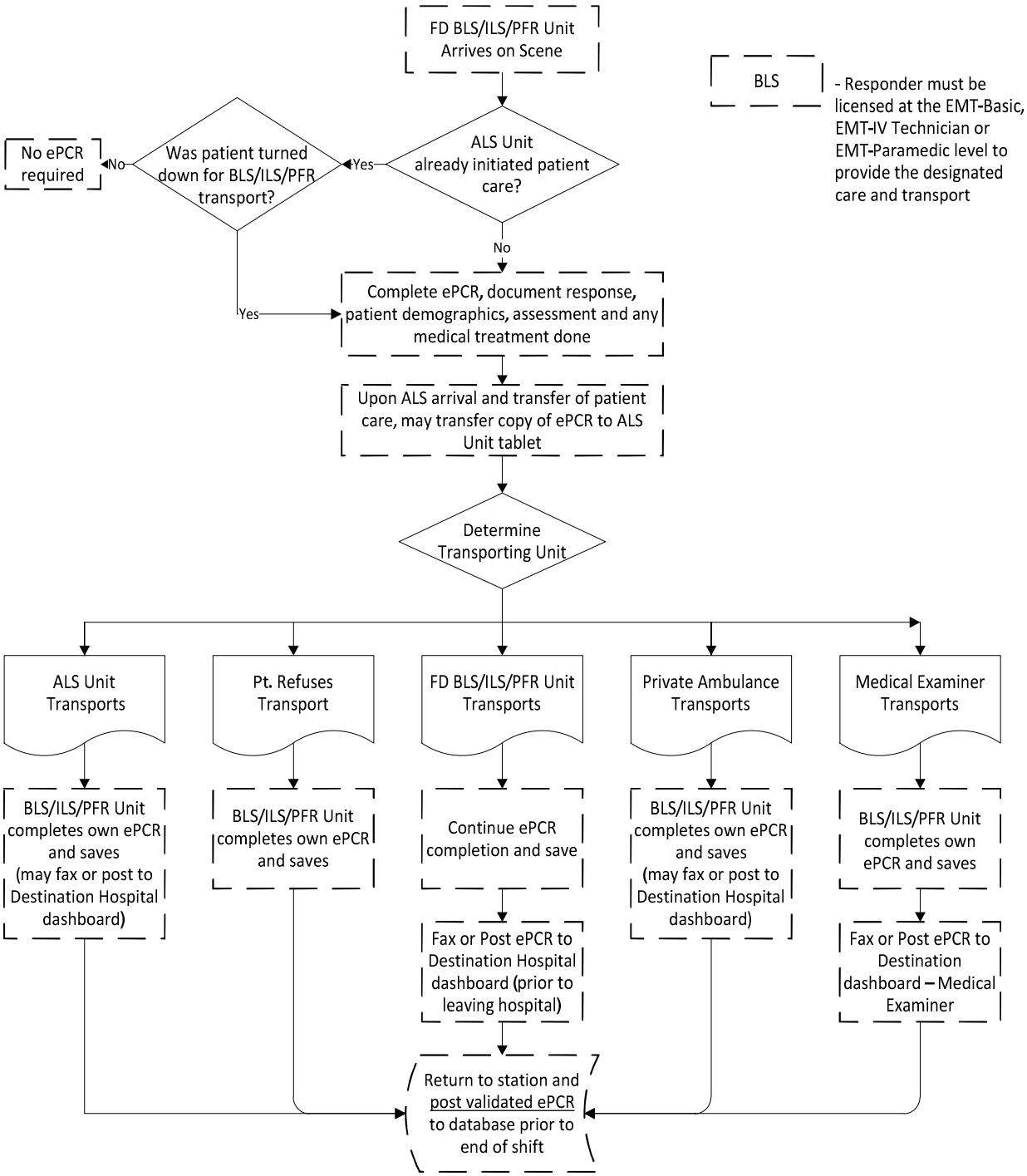
ALS UNIT RESPONDS TO SCENE



PATIENT CARE RECORD COMPLETION

ePCR TIERED RESPONSE DOCUMENTATION PROCESS

BLS/ILS/PFR UNIT RESPONDS TO SCENE



DEPARTMENTS USING THE PAPER PCR

Shared EMS Patient Care Record

Both BLS/PFR and ALS fire department responding vehicles in Milwaukee County complete their documentation on the same paper EMS patient care record form. Each fire department municipality will have their own department name on the top of the form.

The first arriving fire department EMS unit who assesses the patient initiates the PCR form. If the run is an ALS call, typically the BLS/PFR unit will arrive first, document any patient assessment and treatment. When the ALS unit arrives, the BLS/PFR unit will give the intact four-part form to the ALS unit for documentation of their assessment and treatment. The *transporting fire department unit* maintains possession of the intact four-part form.

NOTE: Some fire departments have chosen not to share the form across their city borders at this time. In this case, each fire department municipality would start and complete their own PCR form on the same patient. The transporting unit should receive the Hospital Copy from any other unit who assessed the patient. See below:

Departments Sharing the Paper PCR Form Between Municipalities

- Both the BLS/PFR and ALS units will document on the same report form no matter which fire department they are from. The transporting unit will take the entire PCR (all 4 copies).

- If two different fire departments are involved, when the call is over, the fire department of the transporting unit must send a photocopy of the PCR to the other fire department who documented on the form.

Departments NOT Sharing the Paper PCR Form Between Municipalities

- If the BLS/PFR unit who initiates the form is from the same fire department as the ALS unit, both units will document on the same report form and the entire PCR (all 4 copies) will be given to the transporting unit.

- If the BLS/PFR unit who initiates the form is NOT from the same fire department as the ALS unit, each unit will complete their own PCR form. The unit turning over the patient will give the Hospital Copy of their PCR to the transporting unit.

Documentation by Type of Unit

ALS/BLS Units approved in the Milwaukee County EMS Plan, have the flexibility to be dispatched on BLS level calls as well as ALS level calls and may transport patients at either level. Documentation will vary depending on the designation of the unit, which is reliant on the daily staffing and equipment stocked on the unit. **In addition, for paper PCR users, an ALS/BLS Unit responding with a dedicated ALS Unit may be documented as a PFR to eliminate the need for completion of the Transfer of Care form.*

2 Licensed Paramedics (ALS Unit)

- Units staffed with at least 2 paramedics and stocked with all required ALS equipment, shall be designated as a Med Unit*. A designated Med Unit shall document using the assigned Med Unit number for all level of dispatches.
- Radio the Milwaukee County EMS Communications Center for notification of dispatch.
- Complete all ALS sections on the paper PCR, including the ALS Vehicle Personnel section. For ePCR, select 'ALS' in the Unit Type data field. *(Note: The Dispatch Level data field on the PCR will identify if the call was dispatched as BLS.)*
- The Transport Mode section on the paper PCR and Conveyed By data field on the ePCR will identify the final medical level of the dispatched call and the correct billing level.
  - Select "FD ALS" for patients transported at the ALS level.
  - Select "FD BLS" for patients transported by the Fire Department at the BLS level.
- Close the call with the EMS Communications Center.
  - ALS transports, relay patient information for hospital notification.
  - BLS transports, relay patient information for hospital notification.
- Units stocked with only PFR supplies, shall be designated as a PFR Unit. (See PFR Unit below)
- Units stocked with only BLS supplies, shall be designated as a BLS Unit. (See BLS Unit below)

1 Licensed Paramedic (PFR Unit)

- Units staffed with at least 1 paramedic and stocked with PFR supplies, shall be designated as a PFR unit and use the vehicle unit number, i.e., R3, E1, R1883.
- Complete all BLS/PFR sections on the paper PCR, including the BLS/PFR Vehicle Personnel section. For ePCR, select 'PFR' in the Unit Type data field.
- Units without PFR (or ALS) supplies shall be designated as a BLS unit. (See BLS Unit below)

0 Licensed Paramedics and at least 1 Licensed EMT-IV Technician (ILS Unit)

- Units staffed with 0 paramedics and at least 1 EMT-IV Technician and stocked with ILS supplies, shall be designated as an ILS unit and use the vehicle unit number, i.e. R610.
- Radio the Milwaukee County EMS Communications Center for notification of dispatch.
- Complete all BLS/PFR sections on the paper PCR, including the BLS/PFR Vehicle Personnel section. For ePCR, select 'BLS' in the Unit Type data field *('ILS' is not an option at this time).*

- The Transport Mode section on the paper PCR and Conveyed By data field on the ePCR will identify the final medical level of the dispatched call and the correct billing level.
  - Select "FD ALS" for patients transported at the ALS level (includes ILS transports using advanced procedures).
  - Select "FD BLS" for patients transported by the Fire Department at the BLS level (includes ILS transports when no advanced procedures used.)
- Close the call with the EMS Communications Center.
  - ALS transports, relay patient information for hospital notification.
  - BLS transports, relay patient information for hospital notification.
- Units stocked with only BLS supplies, shall be designated as a BLS Unit. (See BLS Unit below)

0 Licensed Paramedics and 0 Licensed EMT-IV Technicians (BLS Unit)

- Units staffed with 0 paramedics and 0 EMT-IV Technicians or only stocked with BLS supplies, shall be designated as a BLS unit and use the vehicle unit number.
- Complete all BLS/PFR sections on the paper PCR, including the BLS/PFR Vehicle Personnel section. For ePCR, select 'BLS' in the Unit Type data field.

Multiple Casualties

- When multiple victims are present at a scene (3 or more) and the paramedic team is caring for one or more patients, other patients who are triaged but not completely assessed by the paramedic team do not need to have a PCR generated by the paramedics if it will interfere with the ALS care of the critical patient(s).
- When multiple victims are present at a scene (3 or more) and no patient at the scene requires ALS care, the paramedics will function as the triage team.

  -**For Paper PCR:**

  The team leader will prepare one (1) Overflow run report. In the section for patient name, the designation "Multiple Casualty" will be entered. Date, incident number, emergency location, unit letter and number, and times are entered as usual. In the treatment log section the team leader will list each patient's name, date of birth, chief complaint, vital signs, transporting unit and destination.

  -**For ePCR:**

  Follow your department standard operating procedure for PCR documentation.
- The transporting unit(s) must complete a standard PCR.

Refusal of Care and/or Transport

If a patient refuses care and/or transport, the following information (in addition to standard documentation) will be notated on the PCR:

1. A statement indicating the patient is an alert/oriented adult
2. Medical treatment and transport options were offered to the patient
3. The paramedic team informed the patient of the possible consequences, including potentially life-threatening conditions, of refusing medical care

4. The patient was encouraged to seek medical help for his/her condition
5. The patient indicated he/she accepts the risks of refusal of care

-For Paper PCR:

The report writer will have the patient initial the line in the lower left hand corner: "I refuse treatment/transport against medical advice and understand/accept the risks" and have the patient sign below.

-For ePCR:

The report writer will have patient sign the appropriate refusal area.

Patient Signature

- The patient signature is *required* on all PCRs. If the patient is unable to sign, ask a family member or witness to sign and document their relationship to the patient. A full name signature is required, initials are not acceptable. The witness signature validates that patient care was provided by EMS personnel, it does not imply any financial responsibility.
- If no family member or witness is available, the receiving Emergency Department RN may sign.

Deceased Patients

If the patient is deceased at the scene (either no resuscitation was attempted or the resuscitation was terminated in the field) the PCR should be handled as follows:

- If the Medical Examiner is at the scene, give the Hospital Copy of the paper PCR to the Medical Examiner. For the ePCR, fax a copy or post to the ME's Dashboard.
- If a BLS unit (private or fire department) will be transporting, give the Hospital Copy of the paper PCR to the BLS unit who in turn should give it to the physician at the receiving hospital or ME. For the ePCR, fax a copy to the receiving facility or post to the facility Dashboard.
- If control of the scene is given over to a police officer or private Ambulance Company awaiting arrival of the Medical Examiner, the Hospital Copy of the paper PCR is to be sealed in an envelope. Write the patient's name, the designation of the paramedic unit and the names of the paramedics on the outside of the envelope. (State law forbids the review of the contents of the run report by the police without the written permission of the next of kin or a court order.) For the ePCR, fax a copy to the ME or post to the ME Dashboard.

Copy Distribution

-For Paper PCR:

When completed, there are four copies of the report form to distribute as follows:

- Top Copy: Milwaukee County EMS Copy
  To be sent to Milwaukee County EMS where it will be scanned into the MC EMS database.
- Part Two: Fire Department Copy
- Part Three: Fire Department Billing Copy
  The second and third copies are forwarded to the appropriate fire department administration, one will be filed, and the other will be used for fire department billing, if applicable.

- Part Four: Hospital Copy
  To be left with the patient at the hospital.

Each fire department administration will submit their paper records to MC EMS on a weekly basis.

-For ePCR:

- Hospital Copy: A faxed copy or an electronic copy posted on the Hospital Dashboard will be made available to the receiving hospital before the transporting crew goes back into service.
- Fire Department Copy: Stored in billing vendor's database, accessible by fire department and authorized MC EMS personnel.
- MC EMS Copy: The billing vendor will export completed PCRs within 72 hours to MC EMS on a daily basis.

Correcting Written Errors

If a written error occurs while completing the paper PCR, draw one (1) line through the mistake, mark it as "error", place your initials next to the error and write in the corrected information.

Amending Reports

If a late entry needs to be made to a completed and distributed PCR, an amended report should be filed.

-For Paper PCR:

Use the Overflow/Transfer of Care form for this purpose. Write in the following information:

- Case No. from the original EMS Report form (PCR)
- Date of the run
- Fill in Overflow circle
- Incident Number
- Unit Letter
- Unit Number
- Patient Name

Use the narrative to explain what information was left out of the original report or if a written error was made. Be sure to include the date and time the amended report was filed. The report writer should then sign the report and distribute the copies as labeled. The hospital only needs to be notified if there was a medication error.

-For ePCR:

Log in to the fire department service bridge website and search for the record to be amended. Using the addendum function, explain what information was left out of the original report or if an error was made. The date and time of the amendment will be automatically recorded. The hospital only needs to be notified if there was a medication error.

Legal Issues

The patient care record is both a legal and medical document. Medical information on the record is confidential and should not be released or disclosed without proper (legal) authorization. The fire department owns the record, but the patient owns the information documented on the record. Persons requesting a copy of or information from the record should be referred to your fire department administration.

POLICY:

- All patients evaluated by the paramedic team will monitored in accordance with the standards of care, policies and protocols of Milwaukee County EMS.

- Standard Lead II configuration will be used for initial evaluation and continuous monitoring of the ECG. A 12-lead ECG will be obtained and transmitted for any patient experiencing symptoms of suspected cardiac origin.

- A six inch or longer strip will accompany the patient to the hospital

- ECG monitoring of a patient under the care of a paramedic team must be done by a licensed paramedic. BLS and other non-paramedic personnel may not be assigned nor assume responsibility to perform continuous ECG monitoring.

- Any change in rhythm will be documented on the run report and an attempt will be made to obtain a six inch strip of the new rhythm to be left with the patient at the hospital.

- The paramedic team will transmit an ECG "burst" to the Communications Base at the request of the medical control physician, and at least prior to:
    - Requesting a medical control physician for the call
    - Patient care intervention
    - Patient re-assessment (e.g. stop CPR)
    - Request to stop resuscitation efforts

- This policy does not exclude any patient from ECG monitoring or the paramedic team from transmitting an ECG burst to the Communications Base. Medical control should be contacted for medical orders when appropriate for symptomatic patients.

Definitions:

On-campus: Classes held at the offices of MC EMS Education Center
In-house: Educational sessions held at a fire station
DL: Distributive learning educational modules posted on an Internet web site.

Overview:

- In the event of an emergency or illness, a paramedic may be granted an "excused absence" and be allowed to request a rescheduling of his or her refresher class.
  - Definition of an emergency
    - Family emergency needing medical attention
    - Injury to self that prohibits paramedic from attending class
    - Family emergency requiring paramedic's immediate attention
  - Definition of an illness:
    - Personal illness needing the attention of a physician
    - Personal illness of contagious nature (ex Whooping cough)
- If a paramedic is granted permission to reschedule, he or she must be rescheduled for the next mutually available refresher class.
- Paramedics are expected to arrive on time. It is the responsibility of any paramedic who will be late to a refresher class or CE conference to call MCEMS Education Center to inform the center staff of their late arrival.
- Any paramedic leaving a refresher class or CE conference early will be required to make up the missing time.

ACLS & PALS recertification:

- ACLS & PALS recertification will be done "in house" in the month of December each year
- One half of a fire department's roster will be done each year. All paramedics will be recertified within a two-year licensing period.
- Dates for ACLS & PALS recertification will be done on mutually agreed upon dates between MC EMS Education Center and each fire department. Fire department administration will schedule their paramedics to attend agreed upon class dates assuring that class size meets minimums established by MC EMS Education Center.
- It is the responsibility of each EMT-P to make sure they have "current" ACLS and PALS certifications as established by the American Heart Association.

Refresher classes:

- Refresher classes will be offered each fall and spring semester. Attendance at one refresher class per semester is mandatory.
- MC EMS Education Center will publish the class dates six months prior to the dates offered. It is the responsibility of each paramedic to register for one refresher class for each of the fall and spring semesters during a two-year licensing period. (Total of four on-campus classes in a two-year licensing period.)
- At the end of each refresher class, the employing EMS agencies will be notified of a paramedic's attendance, the length of the class and hours each paramedic attended.
- Those paramedics who have not attended either a regularly scheduled refresher class or have been granted an excused absence will be required to obtain six hours of refresher class content. Arrangements must be made through the education manager at MC EMS. The required hours must address the same topic area as the missed refresher class offered by MC EMS.

CE Conference attendance:

- MC EMS Education Center will offer three continuing education (CE) conferences each academic year. (September through June)
- Attendance at each of the conferences is mandatory.
- Paramedics who do not attend a CE conference must notify their fire department EMS administrator.
- Paramedics who do not attend a CE conference must present proof of obtaining equivalent number of hours of CE in an EMS related topic. Proof of attendance can be either a certificate of CEU or a conference agenda.
- Paramedics must sign in upon arrival at the CE conference and must sign out if leaving before the conclusion of the conference.
- Employing EMS agencies will be notified of a paramedic's attendance at the conference as well as the length of the conference.
- Milwaukee County EMS Education Center will develop a "MC EMS System Update" presentation and post it on the DL web site following each CE conference. This presentation will cover updates to system policies, an orientation to new supplies, updates regarding health information (patient care record) issues as well as other system elements. Each EMT-P, whether they attended the CE conference or not, is required to review the "MCEMS System Update" within one (1) month of the presentation being posted on the DL web site. Since the system update presentations deal with current EMS events, it is critical that this information be reviewed in a timely manner. If a paramedic is not able to review the update presentation within the one (1) month time period, he or she must inform the department EMS officer of the delay and when he or she anticipates completing the presentation.

DL requirements:

- A list of scheduled modules will be made available to the paramedics at least one month prior to the start of a semester.
- 5 – 6 modules will be scheduled per semester.

Requirements to maintain "Full Practice" or "Limited Practice" status:

In order for a paramedic to maintain their "Full or Limited" practice status and be granted the ability to practice under the medical control of the Milwaukee County EMS Medical Director, a paramedic must:

1. Attend one "on-campus" refresher class per semester.
2. Attend all CE conferences that fall within a given semester (or have made up any missed CE conference time).
3. Complete all the required DL modules scheduled for a given semester.

Failure to meet requirements:

Failure to complete the requirements to maintain practice status by the established due dates will result in a paramedic losing his or her practice status and medical control. Practice status and medical control will be suspended until such time that the paramedic completes the missed educational content and informs the education manager that he or she is up to date.

Fall semester: August 1st to December 20th
Spring semester: January 1st to May 20th

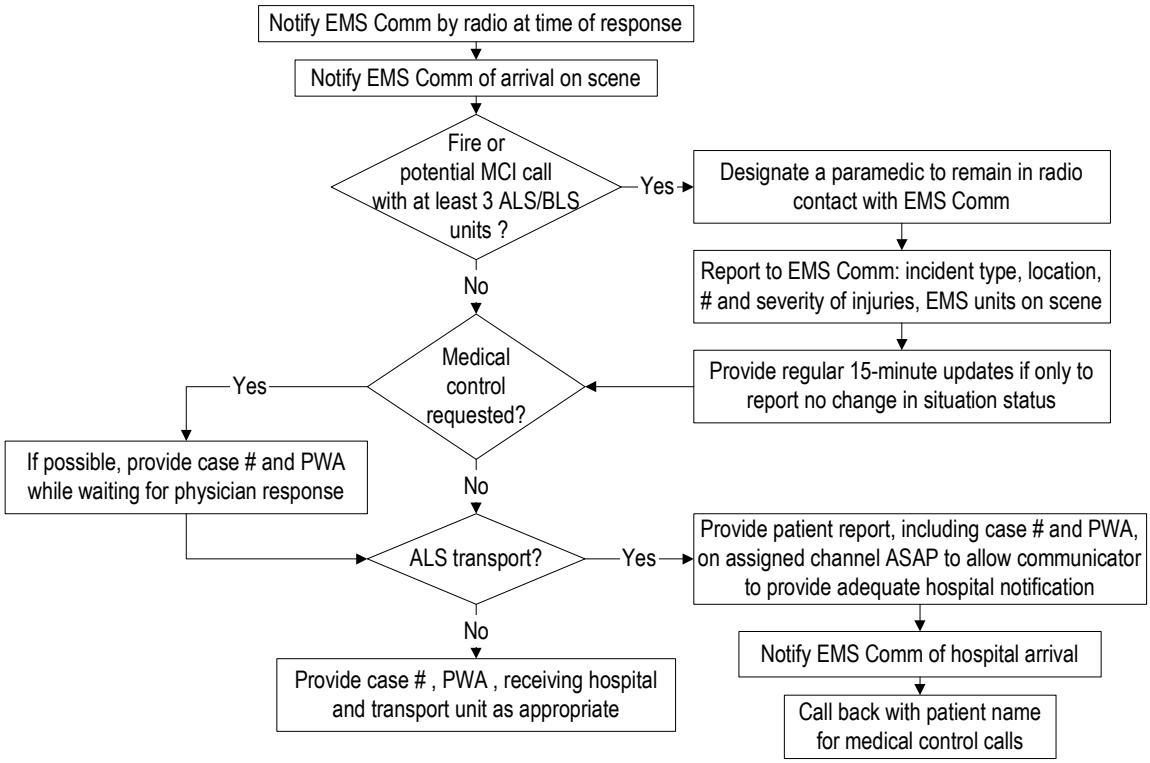
POLICY: Upon dispatch, a unit staffed as a dedicated ALS or as an ALS/BLS unit will contact the Milwaukee County EMS Communications Center by radio. Contact with medical control is to be made for medical orders not covered by protocol.

Paramedics may request medical control for advice in unusual circumstances e.g. refusal of care/transport, or when uncomfortable with or unsure of treatment options. ALS or ALS/BLS units transporting a patient without on-line medical control will provide appropriate medical information about the patient to the Communications Center for relay to the receiving facility. When paramedics need medical control or are ready to provide a report during transport, a frequency should be requested.

The ALS or ALS/BLS unit will notify the Communications Center of the disposition of the call, the patient's report number and primary working assessment for every patient assessed, regardless of transport disposition.

ALS or ALS/BLS units responding to a fire call or potential mass casualty incident will notify the Communications Center and remain on the call-in channel unless otherwise directed by a communicator. If three or more ALS or ALS/BLS units are dispatched to a single event, one of the paramedics on scene will be designated to contact EMS Communications with the following information:

- Type of incident
- Location of incident
- # and severity of injuries
- ALS or ALS/BLS units on scene
- The designated unit personnel will provide updates at regular 15-minutes intervals, if only to report no change in situation status.



Each paramedic unit is responsible for labeling all hardware (radios, monitors, splints, kits, etc.) in their inventory with their department and unit designation.

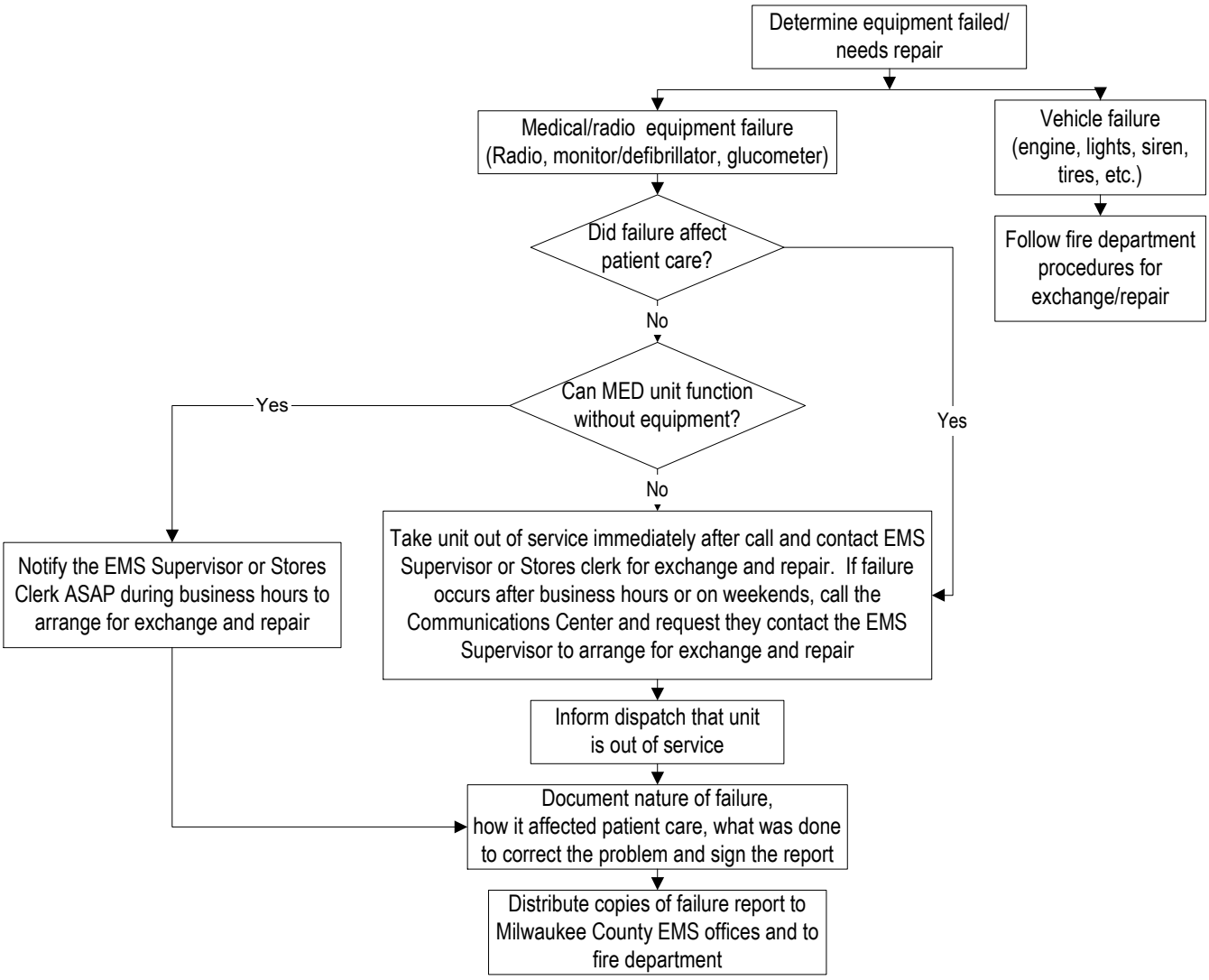
A current log of items which must be left with a patient at a hospital will be maintained by the paramedic unit and those items retrieved as soon as possible. The log should include the type of equipment, quantity, hospital location, date left, patient or run number and date retrieved.

When Items are missing from the inventory, they are to be reported immediately to the appropriate fire department officer and to the EMS supervisor at the Paramedic Training Center as soon as possible but no later than the next regular business day.

Approved inventory lists for equipment and supplies are available from Milwaukee County EMS. A copy of the kit setup is required to be submitted and kept on file with Milwaukee County EMS on an annual basis. Any piece of equipment or supply not specifically included cannot be present on the vehicle or used by paramedics without the written permission of the Medical Director. Proposals to add new equipment must include in-service, evaluation and continuing education information and a fiscal impact statement.

Essential equipment must be on the paramedic unit and operational in order for the unit to be in service and respond to requests for emergency medical services. This essential equipment includes:

- Airway Kit
- Medication Kit
- Suction
- Oxygen Kit
- Stretcher
- Communications equipment (the cellular telephone on the 12 Lead may be used for emergency communications if the Apcor or Micor systems fail)
- Monitor-defibrillator



NOTES:

- If it becomes necessary to change to a back-up vehicle, test all radios prior to changing to the new vehicle. Test radios again when returning to the repaired vehicle.
- The MED unit personnel are responsible for notifying the fire department that repairs or vehicle changeovers are being made.
- Equipment that is out of service or fails on a call should be documented on the run report in the appropriate section.
- Notify the Quality Manager with details of failures affecting patient care. The Quality Manager will file the necessary FDA reports.

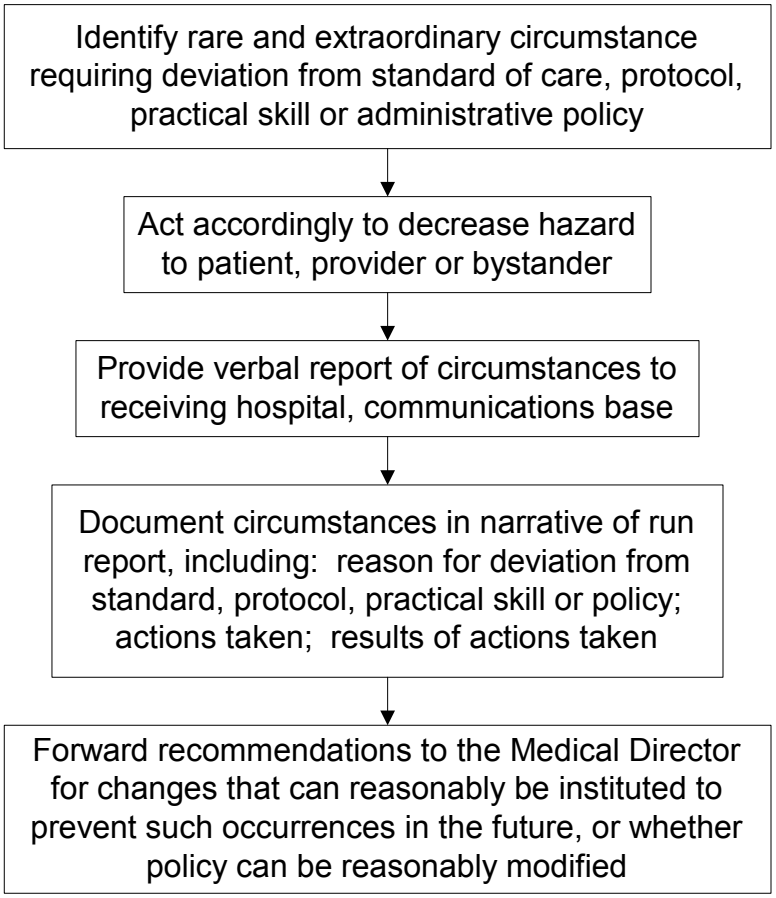
Initiated: 2/13/08	**MILWAUKEE COUNTY EMS OPERATIONAL POLICY**	Approved by: K. Sternig, MS-EHS, BSN, EMT-P
Reviewed/revised:		Approved by: Ronald Pirrallo, MD, MHSA
Revision:		Page 1 of 1

EXCEPTIONS TO STANDARD, PROTOCOL, SKILL, POLICY MANDATES

POLICY: Under rare and extraordinary circumstances, and only when communication with medical control is impossible, an employee may temporarily choose to act outside of approved policy when it is the employee's professional judgment that, in that specific instance, following such policy would pose a direct and immediate hazard to the employee, a co-worker, or a member of the public.

The purpose of this policy is not to allow the employee to substitute his or her judgment for that of the Medical Director, but to allow for discretion in those rare and extraordinary circumstances that cannot be addressed by a general policy.

When the employee makes such a judgment in contravention of a policy, the circumstances shall be reported by the employee and shall be documented in order to determine whether the employee properly exercised discretion, whether changes can reasonably be instituted to prevent such occurrences in the future, or whether the policy can be reasonably modified.

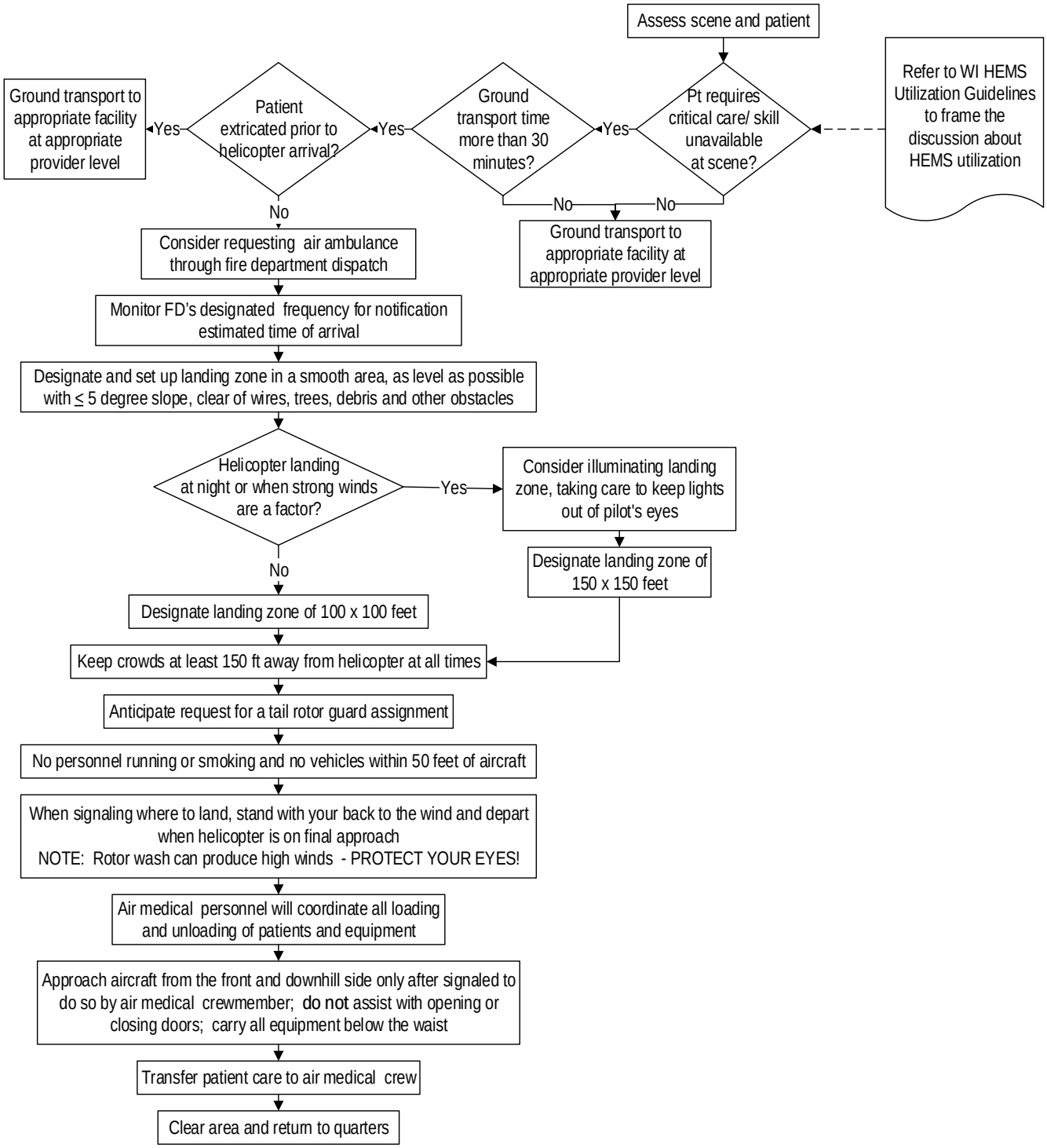


POLICY: Milwaukee County Emergency Medical Services will request air ambulance transport utilizing the Wisconsin Helicopter Emergency Medical Services (HEMS) Guidelines:

A. HEMS utilization is a medical decision requiring appropriate oversight and should be integrated within regional systems of care.
B. HEMS may provide a time savings benefit to patients with time sensitive emergencies[1] in reaching hospitals that can provide interventions IF the patient can be delivered during an interventional window[2] AND Ground Emergency Medical Services (GEMS) are not able to appropriately deliver the patient to definitive care within that interventional window.
    1. Examples include: Injured patients meeting the State of Wisconsin Field Trauma Triage Guidelines Category 2 or 3 who are more than 30 minutes of ground travel to the closest American College of Surgeons (ACS) verified Level I or Level II trauma center.
        a. HEMS utilization for mechanism of injury or special population alone (Category 4 or 5) lacks clear evidence of benefit. Since these patients may not need the resources of the highest trauma level facility in a region, use of HEMS should be carefully considered. Standing protocols or online medical consultation may offer individual guidance.
    2. Patients with acute STEMI needing transportation to a regional percutaneous coronary intervention (PCI) capable hospital where ground transportation exceeds an interventional window.
C. HEMS may provide clinical resources to patients needing critical care services if unable to obtain critical care services by ground emergency medical services (GEMS) (e.g., inter-facility transfer).
D. HEMS may provide a mode of transport for geographically isolated, remote patients independent of emergency medical urgency (e.g., from an island) although this mode should be carefully considered.
E. HEMS may provide a resource to local GEMS systems during disasters and times of low community resources.
F. HEMS have unique risks of transport, including economic.
G. Hospital destination and mode of transport are two separate and distinct clinical issues.
H. Mode of transport decisions pose unique challenges in developing evidence-based transport guidelines.

[1]A time-sensitive emergency can be defined as an acute, life-threatening medical or traumatic event that requires a time-critical intervention to reduce mortality and/or morbidity. Examples include major systems trauma, ST elevation myocardial infarction (STEMI) and stroke.

[2]An interventional window can be defined as the period of time during which mortality or morbidity is likely to be reduced by the administration of pharmaceutical agents, medical procedures or interventions. An interventional window should be based on available national consensus guidelines such as the American Heart Association's first medical contact or door to balloon time. The "Golden Hour" of trauma refers to the core principle of rapid intervention in trauma cases, rather than the narrow meaning of a critical one-hour time period. There is no evidence to suggest that survival rates drop off after 60 minutes.



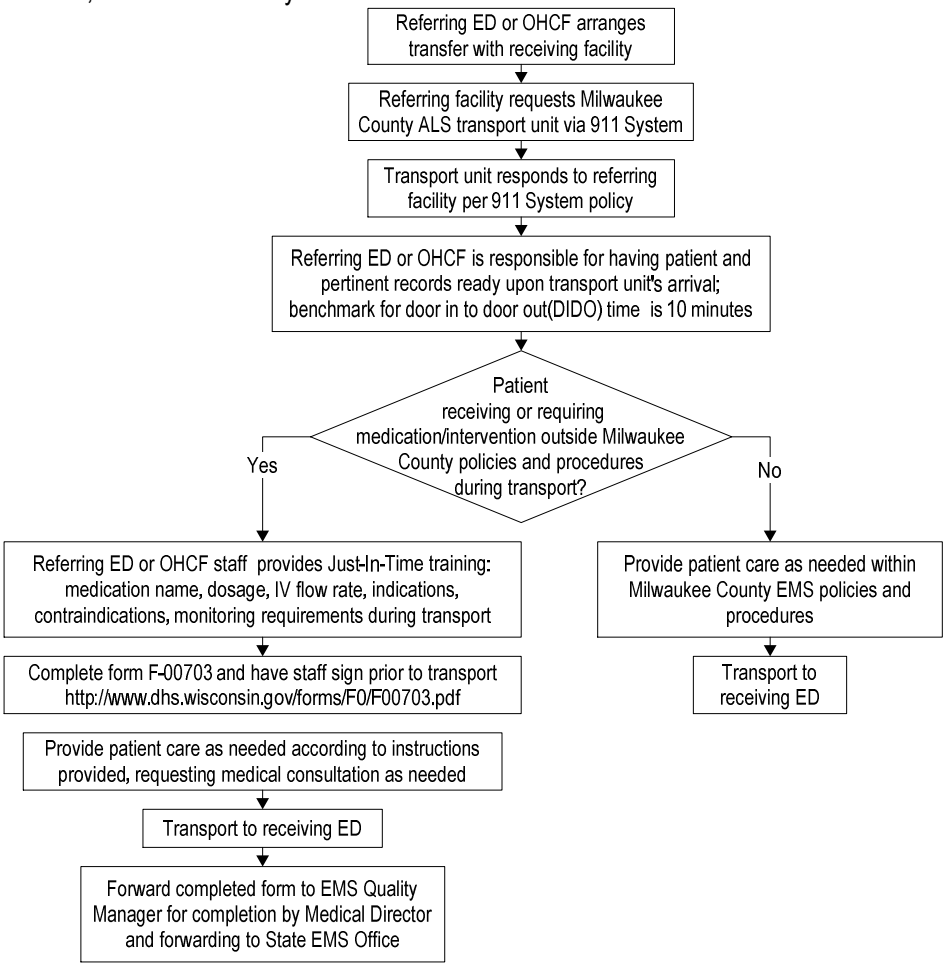
NOTES:

- FFL response time is approximately 20 minutes from request to arrival at scene within Milwaukee County.
- For air medical response to an MVC, no fire hose line is required.

Scope of Practice ***may*** include:	Scope of Practice ***does not*** include:
Patients paralyzed and intubated Pre-administration of pain medication and/or antibiotics Blood products already administered	Managing chest tubes Administration of blood products IV pumps Management of other medical devices

POLICY: Upon request, Milwaukee County ALS units will transport a patient from one emergency department (ED) or outpatient health care facility (OHCF) to another receiving emergency department within the Milwaukee County EMS System in accordance with System policies and procedures.

If a physician has directed patient transfer to another facility, the receiving hospital has already agreed to accept and is expecting arrival of the patient, regardless of diversion status. If, for any reason, transport is delayed, destination change is requested, or patient is refusing the transfer, Milwaukee County EMS medical control must be contacted.



NOTES:

- Even thought the patient appears stable and transport is for urgent continuing care (STEMI > cath lab, trauma > Trauma Surgery, etc.):
  - Attempt to meet 10-minute door-in-door-out (DIDO) time standard, documenting any cause for delay in transport
  - Cautiously expedite transport with lights and siren
- Milwaukee County Paramedics may not provide care outside the policies and procedures of Milwaukee County EMS Plan.
- Pertinent records that usually accompany the patient may include, but are not limited to lab and/or x-ray reports, ED treatment, and nursing notes.

POLICY: Deceased patients will be managed in a professional and respectful manner, to meet the needs of the community, under the guidelines developed in conjunction with the Milwaukee County Medical Examiner's Office.

DEFINITIONS:

Resuscitation attempt: Initiation of basic or advanced life support procedures in an attempt to reverse cardiac arrest of medical or traumatic origin. These procedures include, but are not limited to, CPR, placement of an advanced airway, cardiac monitoring/defibrillation.

Suspicious death: Patient's death is considered to be from other than natural causes, including suspected sudden infant death syndrome (SIDS), crimes, suicide, and accidental death.

Non-suspicious death: Patient's death is apparently due to natural causes.

Potential crime scene: A location where any part of a criminal act occurred, where evidence relating to a crime may be found, or suspicions of a criminal act may have occurred.

PROCEDURE:

Resuscitation will be initiated on all patients in cardiac arrest, unless one of the following conditions is met:

- Decapitation
- Rigor mortis
- Tissue decomposition
- Dependent lividity
- Valid State of Wisconsin Do-Not-Resuscitate order or Physician Orders for Life-Sustaining Treatment
- Fire victim with full-thickness burns to 90% or greater body surface area
- Traumatic arrest with ECG showing asystole or wide complex PEA at a rate less than 30

A patient may be pronounced en route to a hospital if condition warrants. In such case, the destination should be changed to the Medical Examiner's Office.

A paramedic involved in the resuscitation effort shall call the Medical Examiner's Office to provide a first hand account of the scene and patient history. If no paramedic is on scene, a BLS provider who determines the patient meets criteria for no resuscitation attempt shall place the call.

For a potential crime scene:

- Notify law enforcement if not already involved.
- Include potential crime information in report to Medical Examiner's Office.
- Observe, document and report to law enforcement anything unusual at the scene.
- Protect potential evidence
    - Do not "clean up" the body
    - Leave holes in clothing from bullet or stab wounds intact
    - Do not touch or move items at the scene
    - Observe, document and report to law enforcement and the Medical Examiner's Office any items disturbed by EMS at the scene
- Turn the body over to law enforcement
- Law enforcement has the legal responsibility to maintain scene integrity

For all other patients:

- Do not remove lines or tubes from the deceased
- Do not "clean up" the body
- Do not disturb the scene
- If covering the body, use only a clean, disposable blanket

Disposition of the body:

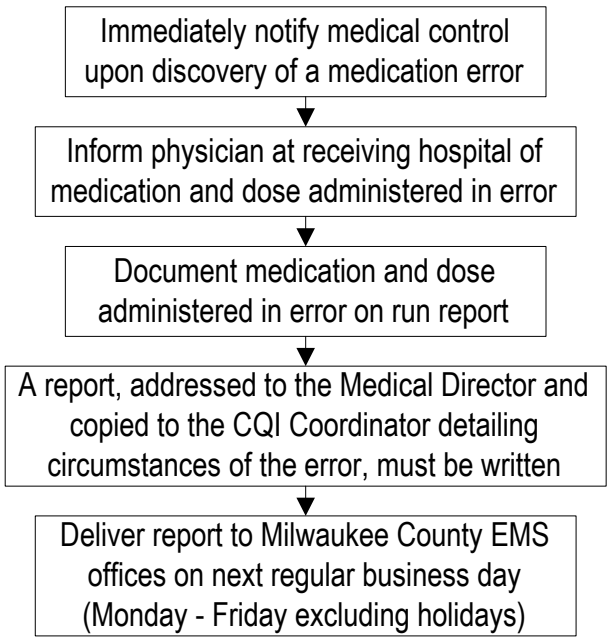
- Do not leave the body unattended
- The body may be turned over to law enforcement, which has the legal responsibility to maintain scene integrity
- If approval is granted by the Medical Examiner's Office, the body may be turned over to a funeral home
- If the resuscitation attempt took place in the ambulance, include the information in your report and transport to the Medical Examiner's Office at 933 West Highland Avenue
    - Do not transfer the body to another transport vehicle unless the municipality would be left with no available responding ALS unit; refer to individual municipal policy
    - If the death is considered suspicious, a police officer or detective may accompany the body in the ambulance to the Medical Examiner's Office to maintain integrity of evidence
- Transport to a funeral home shall be determined by individual municipal policy

Documentation:
A patient care record will be completed for all expired patients. Documentation will include:

- Pertinent information regarding patient's known medical history.
- Treatment provided; if no treatment was provided, the reason for not initiating a resuscitation attempt.
- The time of determination not to initiate resuscitative measures, or the time CPR was discontinued

A copy of the patient care record is to be forwarded to the Medical Examiner's Office.

POLICY: In circumstances where a medication error is made, appropriate personnel must be notified immediately upon discovery of the error.



DOCUMENTATION GUIDELINES FOR THE PCR

POLICY: The patient care record narrative will provide a complete picture of the patient presentation, pertinent findings, pertinent negatives, ongoing development of the patient care event, care and treatment provided and condition at end of call.

GUIDELINES: The intent of writing a narrative documentation is to tell a story that can be completely understood by people who were not present at the scene. Narrative documentation should provide a, clear and concise, yet thorough explanation of what occurred at the scene of the call. Document an unbiased and factual description of the call. Make sure all check boxes or electronic screen choices match documentation made in the narrative section of the PCR. Use a systematic approach, a good PCR should be written with the same systematic approach that is used for the patient assessment. Include critical information and document care chronologically.

Sample guideline for Narrative Documentation:

1. Found (age & sex of patient) in (position) complaining of_____.
2. Since (duration).
3. States chief complaint began (time).
4. Precipitating factors
5. List interventions by patient/family & results
6. Describe signs & symptoms and assessments which are not mentioned previously in record.
7. Describe treatments not already mentioned in record: patient treated with _____ or treated as above.
8. List responses to treatments if not already mentioned.
9. Document any reassessments done besides initial assessment.
10. List any problems which may have occurred as a result of your interventions.
11. Patient transported in (position) to what hospital and with/without lights/siren, if not already mentioned.
12. List status of patient during transport.
13. Document status of patient upon admission to emergency department. Include comments of any "significant findings" which the patient was treated for, ex: Upon admission to ED, patient _____.
14. **After you have written it – READ IT. Check for accuracy AND consistency.**

A narrative in conjunction with other data fields in the PCR should clearly provide the patient assessment information below:

Guidelines for Assessment/Interview:

1. Name:
2. Age:
3. Chief Complaint:
4. Onset/Duration:
5. Precipitating Factors:
6. Interventions by Patient:
7. Associated Symptoms:
8. Medical History:
9. Allergies/what kind:
10. Vital Signs - Blood Pressure, Pulse and Respirations:
11. Breath Sounds:
12. Pupils:
13. Skin:
14. Neck Veins:
15. Mental status:
16. Initial Physical Exam:
17. Decide on what your Primary Impression is and how you are going to treat the patient.

This guideline is intended to provide EMS personnel of the Milwaukee County EMS System with a mechanism for objective evaluation of contemporary EMS equipment proposed for addition to the inventory of the paramedic unit:

Only two (2) product evaluations may be in progress at a given time.

Every attempt will be made for product evaluation to rotate through all paramedic units on a cyclical basis.

Whenever possible there will be at least one (1) suburban paramedic unit and one (1) Milwaukee paramedic unit evaluating a product for each evaluation period.

Paramedic units will have the proposed equipment for at least one calendar month to evaluate the product.

The product being evaluated should not replace an existing item on the ambulance. If a problem arises, the previous existing item should be immediately available.

Each shift of paramedics will complete the short evaluation form at the end of the evaluation period.

At the end of the evaluation period, the paramedic units will return the product and evaluation forms to the Paramedic Training Center.

The units involved will make every effort to safeguard the item being evaluated.

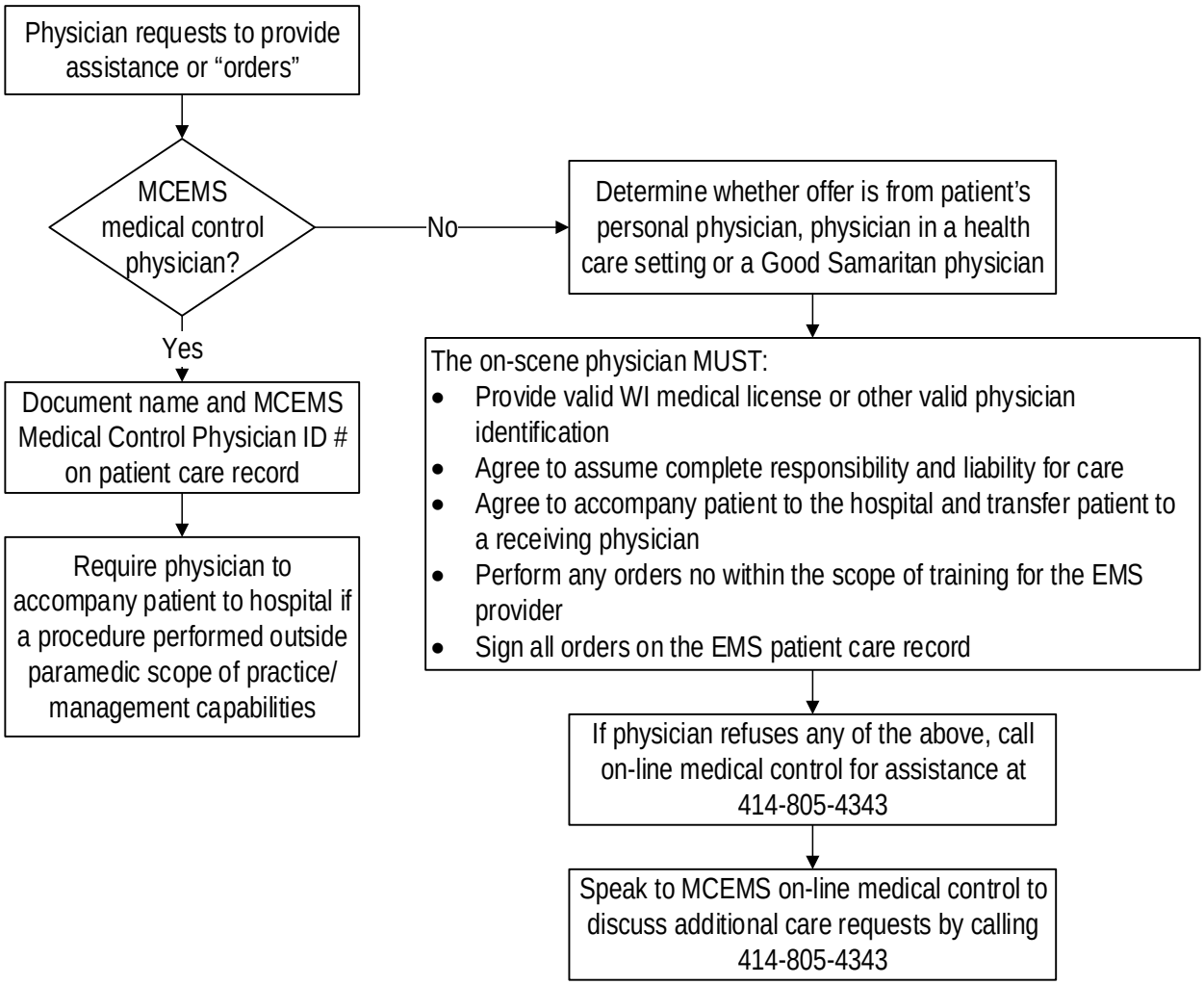
The results of the evaluation will be reported to all personnel at the next regularly scheduled Continuing Education Conference.

If a paramedic unit would like a product evaluated, a Request of Product Review will be submitted to Milwaukee County EMS.

The paramedic unit requesting the product evaluation should be one of the units participating in the evaluation.

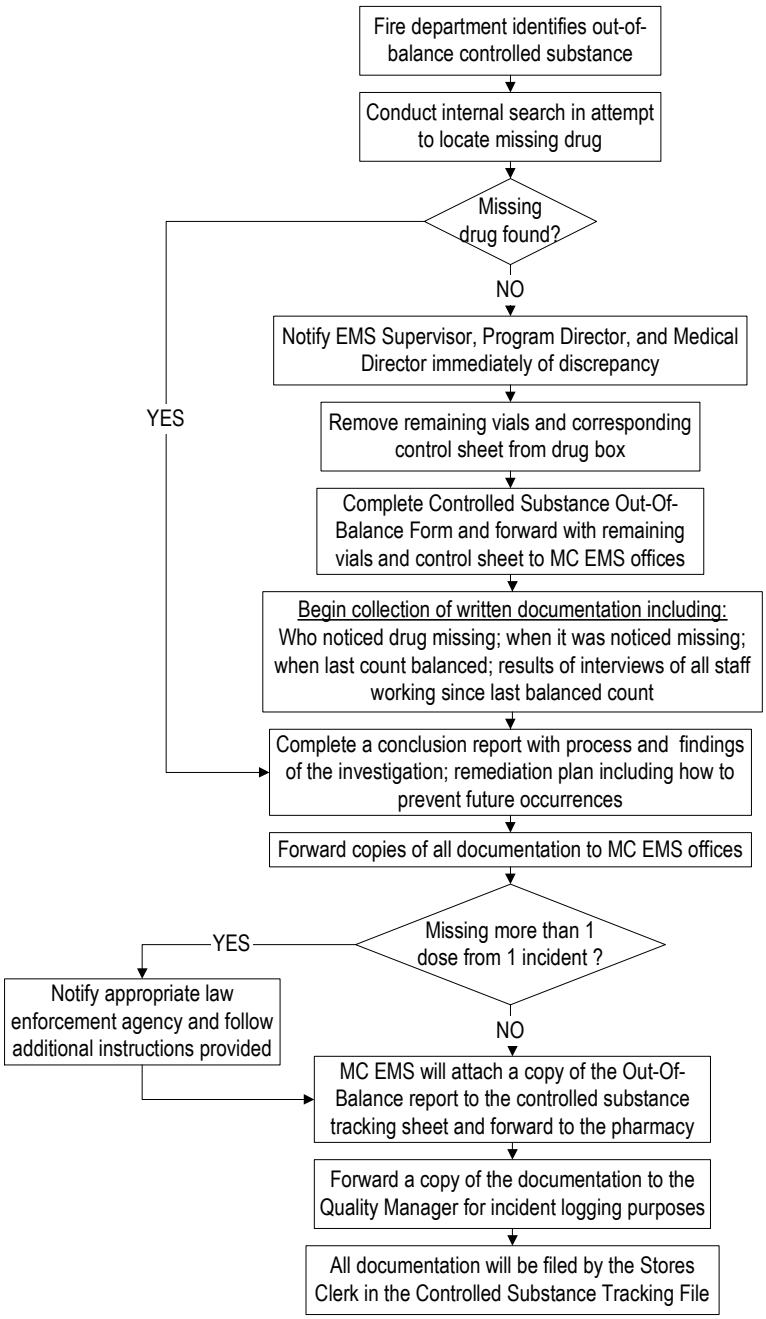
POLICY:

- EMS providers may only provide care within their approved scope of practice regardless of an on-scene physician directive; care beyond scope of practice must be performed by the physician.
- Telephone directives from a personal physician are not valid. The physician is welcome to call EMSCOM and speak to an on-line medical control physician.
- A valid Wisconsin State approved DNR or POLST form may be followed provided it is within the scope of practice for the EMS provider.



Initiated: 5/16/07	**MILWAUKEE COUNTY EMS OPERATIONAL POLICY**	Approved by: Kenneth Sternig, MS-EHS, BSN, EMT-P
Reviewed/Revised:	**OUT-OF-BALANCE**	Ronald Pirrallo, MD, MHSA
Revision:	**CONTROLLED SUBSTANCES**	Page 1 of 1

POLICY: Milwaukee County EMS is responsible for maintaining accountability and will document any and all discrepancies in tracking controlled substances.



NOTE:

- The Medical Director or Program Director may request reporting to the appropriate law enforcement agency.

Purpose:

- To standardize the mechanism by which individuals from EMS systems outside Milwaukee County can request clinical experience within the Milwaukee County EMS System
- To define the procedure for in-field observation by eligible parties

Eligibility: (any of the following)

- Employees/members in good standing with a licensed Ambulance Service Provider who delivers Advanced Life Support prehospital care within a State or regional approved plan in a political subdivision outside Milwaukee County. *Applications are accepted only from a state licensed EMS Provider or state certified EMS Education Center on behalf of the individual (individuals may not independently apply for training).*
  - Licensed physicians and medical students involved in emergency medical care and/or medical control.
  - Other medical professionals, including but not necessarily limited to registered nurses and physician assistants, who have an active role in the delivery of emergency medical care.
  - Individuals engaged in current research in emergency medical care.

Experiences available:

- Initial instruction (didactic and clinical experience) for Emergency Medical Technician--Paramedic or --Advanced
- Refresher (continuing education) course for licensed paramedics
- Customized educational programs with content developed as requested by the employing agency
- Supervised field experience with operational EMS unit
- Ride-along (non-participatory) with operational EMS unit

Prerequisites:

- Approval by the Milwaukee County EMS System Program and/or Medical Directors.
- Valid Wisconsin license or training permit as EMT-B, EMT-A, or EMT-P for participatory experiences.
- Contractual agreement between parent organization and Milwaukee County for participatory experience.
- Transfer of Medical Control to Milwaukee County System for the duration of the participatory experience.
- Signed waivers from parent organization and participants.
- Release of academic information waivers from participants for educational programs.
- Proof of injury and liability insurance (Worker's Compensation and malpractice).
- Agreement that non-instructional expenses (i.e., books, personal educational materials, travel, lodging and meal costs) are the responsibility of the participant/parent organization.
- Proof of meeting clinical sites' communicable disease requirements.

Application process for participatory experiences

- Written request for experience sent to the Milwaukee County EMS System Program Director by authorized administrative officer of parent organization.

- Agreement on the terms of the experience, including:
  - Dates and times of the experience
  - Type of experience (didactic, clinical, field)
  - Cost to the parent organization. Milwaukee County Statutes require that outside educational offerings must be financially self-supporting.
  - Development of appropriate objectives and content of the experience.
  - Agreement of participation from the Chief of the hosting Milwaukee County Fire Department, including any costs to the Education Center/student.
  - Signed contract returned to Milwaukee County EMS Program Director.
  - Receipt of documentation of prerequisites.

Educational sessions

- Assignment of appropriate instructors and support personnel.
- Orientation of the participant(s), including baseline evaluation as needed (e.g. pretest, IV skill station, etc.). Cost of any orientation session must be included in the original negotiated price with the employing department.
- Presentation of the content.
- Evaluation of the participant(s).
- Evaluation/feedback by the participant(s) of the presentation.

Completion of the educational session

- Notification of completion sent to the parent organization.
- Submission of student evaluations to the parent organization.
- Final bill forwarded to the parent organization.
- Receipt and deposit of tuition payment.

Ride-along observations:

- Individuals who wish to ride with operational paramedic units on an observation-only (non-participatory) basis should submit a request to the Program Director of the Milwaukee County EMS System.
- Ride-along observations are for educational purposes only. Applicants should state clearly in their request the objectives of their experience.
- Ride-along observations by students from a course charging tuition will be assessed a fee, proportional to the total hours of the course. The actual fee will be negotiated (prior to the start of the experience) by the Program Director or his/her designee.
- Permission must be granted by the Chief of the hosting Fire Department.
- All requirements of the hosting fire department must be met:
- Proof of Worker's Compensation and liability insurance.
- Signed waivers from the individual and his/her employer.
- Date, time and unit assignments are coordinated through the Milwaukee County EMS Education Center. Priorities are assigned based on the educational need(s) of the observer and the constraints of the EMS system.

POLICY:

- Patient transfer of care occurs when the transported patient crosses the hospital threshold.
- Realistic expectations for EMS Providers and Hospital Emergency Department personnel are established to ensure smooth transfer of care.
- Problems identified in the transfer of patient care should be reported to the Milwaukee County EMS Incident Line at (414) 289-6774.

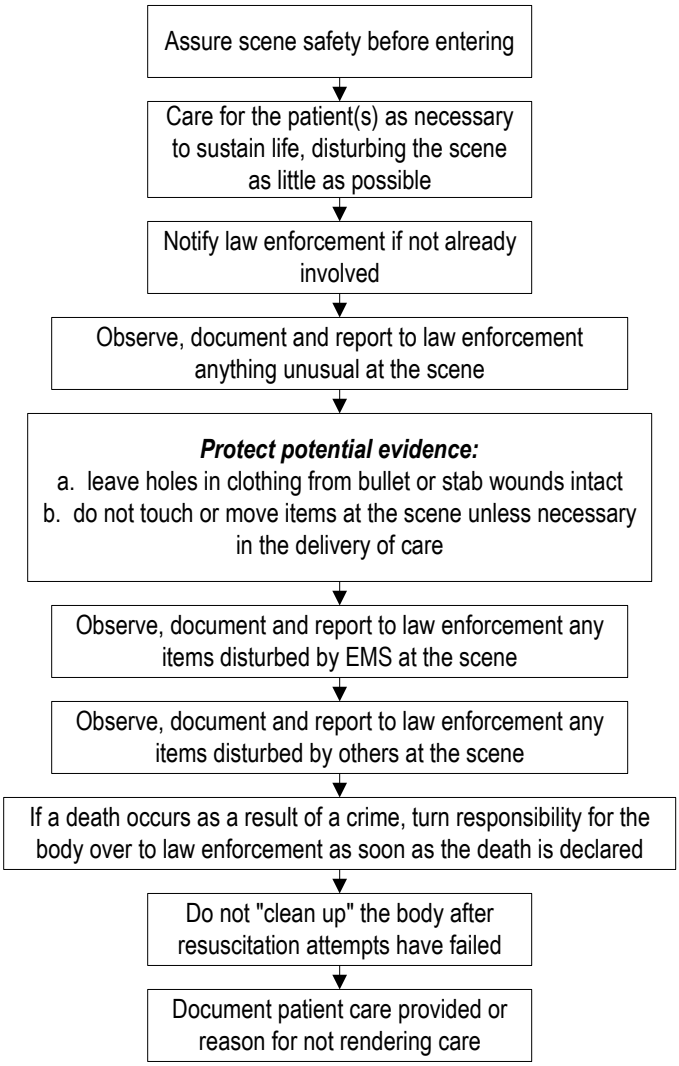
EMS Provider Expectations of ED staff:

- Assignment and transfer to a room in a timely fashion
- Qualified medical professional to take report in a timely fashion
- Assist with patient transfer from EMS transport cot to hospital bed
- Upon request, escort of appropriate medical personnel when patient destination is not the ED
- Replacement linens
- Present a FIN sheet in a timely manner

ED Staff Expectations of EMS Providers

- Transport notification provided as early as possible with complete patient report
- For STEMI, prehospital acquisition and transmission of 12-lead as soon as possible
- Patient transport to area as directed (triage, trauma room, L&D, etc.)
- Complete verbal report at time of transfer
- Receipt of a copy of the written report or electronic patient care record before transporting crew goes back into service
- Placement of medical waste in appropriate receptacle/area

POLICY: A potential crime scene is defined as a location where any part of a criminal act occurred, where evidence relating to a crime may be found, or suspicions that a criminal act may have occurred.



NOTES:

- Cooperate with police for information gathering at scene, such as:
  - Disruption of scene by EMS personnel or others
  - Names of responding EMS personnel
  - Medical care provided to the patient
- All documentation is to be noted in objective terms
- Patient's or bystanders' statements are to be put in quotes
- Avoid documentation not relevant to patient care
- The patient care record is a legal document and will be used in court
- The patient care record is confidential and protected by state statutes

Policy:

Milwaukee County EMS will issue a system ID number to a Transfer EMS paramedic upon completion of the system notification, licensing, and evaluation requirements, granting the paramedic Intern status.

Graduates of the Milwaukee County EMS Education Program are granted Intern privileges upon licensure and assignment to a system transporting ALS unit.

Intern paramedics will be transitioned to Full Practice in a timely manner to meet the overall outcome of a "safe and effective" ALS field provider as evaluated by the EMS Staff and Medical Director.

Definition:

*Meaningful evaluations should include the following components:

- Positive feedback statement(s)
- Growth feedback statement(s)
- Focus/goal statement(s) the Intern paramedic should focus on in the upcoming six months
- Recommendations for a remediation or corrective action plan to address currently identified with follow up date(s)
- All areas of the form completed individually (no group circled items or "same" comments)

Transfer to Intern	
Fire Department	Forward Registration Form notifying MCEMS of request to initiate Transfer to Intern paramedic process
Administrative Assistant	Notify Education Manager of applicant
Education Staff	Create Target Solutions account
	Notify provider and Admin Assistant when complete
Fire Department	Forward registration to Admin Assistant with copies of: 1) State license 2) NREMT card Verification of NREMT affiliation with MCEMS
Administrative Assistant	Create Education Account in Oracle
	Create transfer provider folder
	Add Transfer paramedic to Ongoing Transfer Paramedic Roster and Fire Department Paramedic Education Refresher Roster
Fire Department	Notify Education Manager when paramedic has completed DL modules and department Ride alongs
	Submit to MCEMS: 1) digital photo in jpeg format, 2) copies of PALS, ACLS, CPR cards NIH Certificate to Admin Asst.
Administrative Assistant	Store digital photo in "emsdata" server in Pictures of MC EMS EMTPs folder in appropriate fire department subfolder
Education Manager	Schedule EMS faculty member to ride along with Transfer Paramedic

Transfer to Intern (cont'd)	
EMS Faculty	Complete required evaluation documentation and forward to Administrative Assistant
Education Manager	Review ride along documents and notify Administrative Assistant that Transfer Paramedic is ready for oral exam with Medical Director
Administrative Assistant	Update/complete Education account and mark account as "System" to enable data export
	Notify Health Information Manager and Med Director paramedic is ready for oral exam
Health Information Manager	Assign paramedic number
	Export Oracle account data
	Load paramedic photo
	Create CSMS account; forward assigned number, CSMS user name and password to Administrative Assistant
Administrative Assistant	Send copies of candidate's file and letter containing the paramedic number, CSMS log-in information to Medical Director
Medical Director	Administer oral exam to Transfer Paramedic; upon successful completion, provide paramedic with letter confirming practice change to Intern status, along with CSMS log-in information
Med Director's Office	Send e-mail confirmation to applicable fire department with cc to MCEMS Administrative Assistant, HIM and Education Manager when candidate passes oral exam
Administrative Assistant	Add paramedic to active continuing education roster and master PALS and ACLS recertification list
Health Information Manager	Send e-mail to fire department with paramedic number confirming paramedic is now active in the system as an Intern Paramedic
	Update service start date in the Oracle account if applicable
	Update active paramedic list by adding new paramedic's name to the fire department roster
	Distribute active paramedic list accordingly

Intern to Full Practice	
Fire Department	Forward the name of the assigned preceptor to evaluate and work with the Intern at the paramedic level for a minimum of 6 months
	Initiate a portfolio to be used by MCEMS management and the EMS Medical Director to assess Intern's qualifications for advancement to Full Practice paramedic
	Review MCEMS Practice Guidelines, Protocols and Policies with emphasis on: 1) Transport Destination 2) Practice Status and Privileges 3) Required Evaluation by a Milwaukee County ALS Unit 4) Response, Treatment and Transport 5) Standards of Practice; Roles and Responsibilities 6) Routine Operations

Intern to Full Practice (cont'd)	
Fire Department Preceptor	Complete a meaningful* evaluation form provided by MCEMS for each day Intern Paramedic is assigned to an ALS transport vehicle.
Intern Paramedic	Complete MCEMS system quiz within 12 months prior to petition for status change
Fire Department Preceptor and Intern Paramedic	Successfully provide return demonstration of high frequency/high impact, and low frequency/high impact skills, with emphasis on: 1) ZOLL monitor a. Pacing b. Defibrillation/ synchronized cardioversion c. ECG upload d. Acquiring and transmitting 12-lead ECG 2) EZ IO drill 3) Pericardiocentesis 4) Needle thoracostomy
Fire Department Preceptor	Forward forms documenting Intern's completion of: 1) Patient interview and assessment skills 2) Appropriate care plan development 3) Function as team leader in directing other providers to provide appropriate care 4) Complete and accurate documentation of an ePCR including complete narrative 5) Communication skills in consulting with medical control physician and EMS Communicator 6) Communication skills with receiving hospital staff
Health Information Manager	Report benchmark statistics to Medical Director and Program Director
Quality Manager	Forward relevant incident reports to Medical Director and Program Director
Education Manager and Medical Director	Establish a schedule for simulation test with education staff when ready for Full Practice status. Simulation to include: 1) C-mac (intubation) 2) Quality of CPR 3) Full simulation station; possibly recorded and archived
Intern Paramedic	Contact Education Manager to schedule simulation test on one of the established dates
	Complete an evaluation of the transition process to be added to the portfolio
MCEMS Staff	Analyze the evaluation form for process improvement
Education Manager and Medical Director	Notify HIM of final approval for practice privilege change to Full Practice
Health Information Manager	Update Practice Privilege in Oracle account
	Send email to Paramedic, Fire Department Chief, and EMS Liaison to notify privilege change and effective date
Intern or Fire Department	Forward completed portfolio to Administrative Assistant
Administrative Assistant	File completed portfolio in Paramedic's file

Policy: All EMS patient care providers receiving medical oversight by and contracted to operate in the Milwaukee County EMS system must request and be granted practice status and privileges by the Milwaukee County EMS Medical Director.

I. Minimum qualifications
   A. Be an active member in good standing of an agency under contract to provide EMS services
      1. Candidates may not have a current or pending disciplinary action or suspension
      2. Candidates are required to sign waivers permitting the EMS Medical Director to review employment and disciplinary files
      3. Provide verification of an acceptable Caregiver's Background check
      4. Provide documentation of the lack of potentially communicable disease (i.e. up to date recommended immunizations; see new student policy)
   B. Have a current State of Wisconsin EMT-P, EMT-A, or EMT-B license and meet all applicable State rules and regulations.
   C. After September 1, 2001, all Paramedics new to the system must have and maintain NREMT certification.
   D. ALS providers must present a certification of completion for the Human Participants Protectin Education for Research Teams online course, sponsored by the National Institutes of Health.

II. Minimum competency
   A. Clinical Evaluation
      1. Produce documentation that meets or exceeds Milwaukee County EMS Education Center level-appropriate course work and skill competencies
      2. Successfully complete an ALS content evaluation by a member of the Milwaukee County EMS Education Center faculty.
      3. Demonstrate competent level-appropriate, scope of practice during observation by a member of the Milwaukee County EMS Education Center
   B. Demonstrate competent level-appropriate EMS patient care knowledge and safe patient management during a verbal examination by the Milwaukee County EMS Medical Director

III. Graduation from the Milwaukee County EMS Education Center satisfies all minimum qualifications and competencies

IV. Practice Privilege Designation
   A. The Milwaukee County EMS Medical Director will assign the candidate to 1 of 3 practice privileges:
      1. Full
      2. Non-practicing
      3. Intern
   B. The Milwaukee County EMS Medical Director will determine the individual's practice privilege after 12 months for an Intern, on a biennial basis for others and upon request.
   C. Practice Designation remains valid for licensure period or until revoked or modified by the EMS Medical Director.
   D. EMS provider must maintain or exceed Milwaukee County EMS continuing education
   E. EMS provider must maintain or exceed Milwaukee County EMS yearly psychomotor skills competency validation/ evaluations
   F. EMS provider must complete adult and pediatric psychomotor AIRWAY .management practical skill demonstration per trimester
   G. EMS provider agrees to conform to the assigned Milwaukee County EMS Scope of Practice and all Milwaukee County EMS standards, protocols, policies and procedures.
   H The Milwaukee County EMS Medical Director's decision is binding and final.

FOR THE FULL PRACTICE EMS PROVIDER

The full-practice EMS provider is defined as: An EMS provider who routinely provides patient care in the Milwaukee County System. An example of full-practice is the full-time municipal fire department paramedic.

Full Practice ALS Providers

- Demonstrate skill proficiency by meeting or exceeding yearly psychomotor skills competencies established by the Medical Director. Individuals with inadequate experience opportunities to maintain skill proficiency (as determined by the Medical Director) may be required to obtain additional educational experience in a manner prescribed by the Medical Director.

- While assigned to an active paramedic unit, all paramedics must rotate through all patient care assignments on a regular basis, spending an equivalent amount of time in each position. Assignment to the positions is designated by Fire Department administration and monitored by Milwaukee County EMS.

Non-practicing ALS Providers

The non-practicing paramedic is defined as: A paramedic who does not provide ALS care in the Milwaukee County EMS system but whose work contributes directly to the benefit of the system. An example of a special reserve paramedic is one who has attained a supervisory or administrative position. The Non-practicing Paramedic:

- Must have attained at least 2 years of full-practice status or its equivalent.

- Receives prior authorization from the medical director prior to providing ALS care.

Intern ALS, EMT-A, and EMT-B Providers
The Intern EMS Provider is defined as: A provider who has not previously had full practice status in the Milwaukee County EMS system. Examples would be new Milwaukee County EMS Education Center graduates and transfer paramedics, regardless of years of experience. "Transfer EMS provider" is defined as any individual whose initial training did not occur at the Milwaukee County EMS Education Center.

An ALS provider will be referred to as an "Intern Paramedic" until he or she has met both of the following criteria:
- Completed 12 months with a minimum of 2400 shift work hours on a transporting MED Unit ***AND***
- Achieved 50% of the 2-year skill and performance benchmarks.

The Intern Paramedic may only provide ALS patient care if accompanied by a full-practice paramedic.

An EMT-Advanced provider will be considered an intern until performance benchmarks are achieved.

An EMT-Basis provider will be considered an intern until successfully completing their probationary period with the employing EMS agency.

FOR THE GRADUATE PARAMEDIC

A Graduate Paramedic is defined as: An individual who has successfully completed a paramedic education course, has taken the NREMT-P certification examination, and is awaiting the results of the examination.

A graduate paramedic has privileges consistent with a paramedic student. The Graduate Paramedic may perform ALS procedures when accompanied by two licensed paramedics, one of whom must have full practice privileges ***AND*** at least two years of experience.

INTERRUPTED OR CHANGE IN PRACTICE PRIVILEGE

Any interruption or change in work schedule that may affect a paramedic's practice status must be reported immediately to the Program Director of Milwaukee County EMS. Examples include but are not limited to: injury, illness, family leave, retirement, or change of employer.

Paramedics who have not been active within their classification for a period of more than 90 calendar days must contact the Education Manager at the Milwaukee County EMS Education Center prior to returning to patient care duties to evaluate content EMS provider may have missed and to discuss meeting to remediate on missed content/ new policies/new equipment etc..

Paramedics who have not been active within their classification for more than 1 calendar year must successfully complete an ALS content evaluation including an infield observation by a member of the Milwaukee County EMS Education staff.

If the interruption from service was due to injury or illness, the paramedic must present documentation that he or she has been medically approved to return to active duty prior to any evaluation by Milwaukee County EMS.

REINSTATEMENT OF PRACTICE PRIVILEGE

Paramedics who have not been active on a paramedic unit for a period of more than ninety (90) calendar days must be re-evaluated by the Milwaukee County EMS Education Center. The medical director will determine the individual's status and practice privilege prior to reassignment to a paramedic unit. For individuals who have not been assigned to the paramedic unit secondary to illness or injury, the paramedic must also present documentation that he/she has been medically approved to return to active duty prior to any evaluation by Milwaukee County EMS.

Paramedics who have not been active on a paramedic unit for a period of more than one (1) calendar year must successfully complete an ALS Content evaluation including an infield observation by a member of the Milwaukee County EMS Education staff and satisfy any State requirements regarding licensure prior to reassignment to a paramedic unit. For individuals who have not been assigned to the paramedic unit secondary to illness or injury, the paramedic must also present documentation that he/she has been medically approved to return to active duty prior to any evaluation by Milwaukee County EMS.

The medical director reserves the right to assign the practice privilege.

POLICY:

The Milwaukee County EMS System is designed to provide the highest level of emergency care allowed by the state during the initial patient care contact by the first arriving unit. Each level has specific education and licensing requirements. EMS providers may practice to the level of their licensure as outlined within the Milwaukee County community standard of care.

All EMS response vehicles in the Milwaukee County EMS System must be equipped as specified in Wisconsin DOT Chapter Trans 309 to promote safe, efficient emergency transportation for the sick, injured and disabled.

Inclusive of Trans 309 requirements, Milwaukee County EMS providers must carry age appropriate equipment and supplies to provide care and treatment at their designated scope of practice. Each responding unit must also carry a minimum number of medication doses, as defined by the Medical Director of Milwaukee County EMS.

DEFINITIONS:

All EMS response vehicles will be staffed with at least one EMT-B. An EMT-B is licensed under Wisconsin Department of Health and Social Services Chapter HFS 110 to administer basic life support and to properly care for and transport sick, disabled or injured individuals.

Some EMS response vehicles will be staffed with an Advanced EMT (referred to as an EMT -IV Technician throughout the remainder of this document). An EMT- IV Technician is licensed under Wisconsin Department of Health and Social Services Chapter HFS 110 to administer basic life support and additional skills and medications defined in the Wisconsin EMS Scope of Practice and contained in the training course required to be licensed as an EMT IV Technician. The EMTIV Technician may obtain IV access or administer IV medications as directed by system protocol.

Advanced procedures are defined in HFS 110 as: prehospital care consisting of basic life support procedures and invasive lifesaving procedures including the placement of advanced airway adjuncts, intravenous infusions, manual defibrillation, electrocardiogram interpretation, administration of approved drugs and other advanced skills identified in the Wisconsin scopes of practice.

Some units will be staffed with a single paramedic (Paramedic First Responder or PFR). A PFR is defined as the first paramedic arriving on scene in a vehicle other than a transporting Milwaukee County Paramedic Unit, who provides the initial patient assessment and care. The PFR is authorized to practice at the full paramedic level when the responding Milwaukee County ALS unit arrives on scene.

Designated paramedic units will be staffed at all times with at least two EMT-Ps. An EMT-P is licensed under Wisconsin Department of Health and Social Services Chapter HFS 110 to perform the functions specified in Wisconsin EMS Scope of Practice relating to the administration of emergency medical procedures in a prehospital or interfacility setting and the handling and transporting of sick, disabled or injured persons.

All EMS providers will be assigned a practice privilege and will be required to meet the criteria set to maintain that privilege.

NOTE: Drug administration routes enclosed in brackets [ET] may only be administered at the EMT-P First Responder or Paramedic level

PROVIDER LEVEL	SCOPE OF PRACTICE	EQUIPMENT & SUPPLY LIST	MINIMUM ILS UNIT DOSES	MINIMUM PFR UNIT DOSES	MINIMUM MED UNIT DOSES
EMT-B An EMT-B is authorized to perform the skills and administer the medications listed to the right. All Milwaukee County EMS units responding at the EMT-Basic level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.	BLS patient care assessment				
	Albuterol/ipratropium, nebulized	Albuterol/ipratropium	1	1	1
		Nebulizer			
	Aspirin	Aspirin	1	1	10
	Automated external defibrillation	Automatic External Defibrillator			
	Blood glucose level analysis	Alcohol preps			
		Blood glucose monitoring unit			
		Blood glucose test strips and lancet devices			
	Colorimetric capnography	Colorimetric EtCO2 device	1	1	1
	King Airway	King Airway			
	Epinephrine 1:1000 for patients in anaphylactic shock, IM	Epinephrine 1:1000	1	1	2
		1cc syringe if no Epi Pen			
	Glucagon, IM, IN	Glucagon	1	1	1
		Mucosal atomization device			
	Glucose (oral)	Glucose (oral)			
	MARK I Autoinjector, IM	DuoDote Autoinjector	1	1	1
	Oxygen administration				
		Laryngoscope handle & blades			
		Laryngoscope spare bulbs			
		Magill forceps			
		Water soluble lubricant			
		20 cc syringe			
		60 cc syringe			
	Pulse oximetry (if the equipment is available)	Pulse oximetry (if the equipment is available)			
	Naloxone IN for narcotic overdose if approved for pilot	Naloxone 2 mg in 2 mL			

PROVIDER LEVEL	SCOPE OF PRACTICE	EQUIPMENT & SUPPLY LIST	MINIMUM ILS UNIT DOSES	MINIMUM PFR UNIT DOSES	MINIMUM MED UNIT DOSES
EMT- IV Tech An EMT IV Tech is authorized to perform all of the above skills with the addition of the skills listed to the right . In addition to the equipment listed above, all Milwaukee County EMS units responding at the EMT-IV Tech level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.	Peripheral IV access	Angiocaths (14, 16, 18, 20, 22, 24 gauges)			
	Intraosseous access [IV medications]	Intraosseous drill and needles (adult, pediatric and bariatric)			
		Carpuject holder			
		IV Tourniquets			
		IV extension tubing			
		Macro drip			
		Mini drip			
		Normal Saline, Carpuject, 2cc			
		Normal Saline – 250 cc			
		Normal Saline – 1000 cc			
		Sharps container			
		Transpore tape			
	D5W, 100 ml, IV, IO	D5W, 100 ml	1	1	3
	Normal saline, IV, IO	Normal saline, IV	1	1	1
	Dextrose 50%, IV, IO, Oral	Dextrose 50%, IV	1	1	2
	Naloxone, IV, IM IO, IN, [ET]	Naloxone, IV or IM	1	1	1
	Nitroglycerine spray	Nitroglycerine spray	1	1	1

PROVIDER LEVEL	SCOPE OF PRACTICE	EQUIPMENT & SUPPLY LIST	MINIMUM ILS UNIT DOSES	MINIMUM PFR UNIT DOSES	MINIMUM MED UNIT DOSES
EMT-P First Responder A PFR is authorized to perform all of the above skills with the addition of the skills listed to the right. In addition to the equipment listed above, all Milwaukee County EMS units responding at the EMT-PFR level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.	ALS assessment for turndown purposes				
	Endotracheal intubation	Endotracheal tubes (sizes 3.0 – 9.0)			
		Endotracheal tube holder			
		Stylet – adult and pediatric			
	12 lead ECG (if the equipment is available)	12-lead transmission device			
	Adenosine , IV, IO	Adenosine		1	4
	Amiodarone, IV, IO	Amiodarone		2	3
	Atropine, IV, IO, ET	Atropine		1	3
	Diphenhydramine, IV or IM	Diphenhydramine		1	2
	Epinephrine 1:10,000, IV, IO, ET	Epinephrine 1:10,000		1	5
	Thoracostomy				
		Swivel adapter, 15 mm			
EMT-P An EMT-P, responding on a fully staffed ALS unit, is authorized to perform all of the above skills with the addition of the skills listed to the right. In addition to the equipment listed above, all Milwaukee County EMS units responding at the EMT-P level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.		AED with monitoring capabilities			
	Calcium chloride, IV, IO	Calcium Chloride		0	2
	Continuous Positive Airway Pressure				
	Dopamine, IV, IO	Dopamine		0	1
	Wave form End-tidal CO2	Wave form End-tidal CO2			1
	Ketamine, IV, IM	Ketamine			??
	Lidocaine, IV, IO, ET	Lidocaine		0	3
	Midazolam, IV, IM, IN	Midazolam		0	3
	MARK IV Autoinjector, IM	MARK IV Autoinjector	0	0	1
	Fentanyl, IV, IM, IO, IN	Fentanyl sulfate		0	1
	Nasogastric tube insertion	Nasogastric tubes			
	Ondansetron, PO, IV/IO	Ondansetron			1
	Pericardiocentesis	Pericardiocentesis needles			
	Tracheostomy care				
	Synchronized cardioversion				
	Sodium bicarbonate, IV, IO	Sodium bicarbonate		1	1

POLICY: Ambulances, kits, equipment will be routinely checked to ensure they are in good working order, completely stocked and clean. Complete patient care documentation includes all information necessary for continuing patient care, billing and electronic data collected by the monitor/defibrillator. All clocks used in the course of patient care (dispatch, monitor, personal wristwatch, EPC, etc.) shall be synchronized to the National Institute of Standards and Technology (NIST) time on a daily basis.

For every patient encounter:

- Complete the patient care record and distribute as directed for continuing patient care, billing, and data collection.

On a daily basis:

- Check and restock all kits and supplies at the beginning of the shift and after every run.
- Ensure that all equipment is in good working order at the beginning of the shift and after every run.
- Maintain the vehicle and equipment in a clean and orderly fashion.
- Return any defective item to the appropriate department for replacement or repair (refer to Equipment Exchange Policy.)
- Count and perform visual inspection of controlled substances; justify with control sheets. Any discrepancy is to be accounted for before the previous shift is relieved. Inability to account for a controlled substance or irregularity in appearance of a medication vial is to be reported immediately to Department Administration.
- Rotate the batteries in the monitor/defibrillator.
- Check Rosetta battery and replace as needed.
- Document that the monitor/defibrillator was checked for:
    - Paper quantity and feed
    - Operations of all controls
    - Operation of defibrillator
    - Non-invasive blood pressure monitor, where applicable
    - Date and time synchronization to NIST time.
- Perform a user test on the monitor/defibrillator and file the test results in the appropriate location.
- Check ETCO2 cable integrity
- Rotate portable radio batteries.
    - Place fully charged battery in the radio.
    - Charge the used battery until the cycle is complete; remove from charger and store.
- Forward EMS run reports to Fire Dept. Administrative offices, who will prep for weekly pick-up by Milwaukee County EMS.
- Upload all patient care information from monitor/defibrillator to the station computer; clear the data card.
- Ensure station computer for uploading ECG monitoring information has the correct date and is synchronized to the atomic clock

On a weekly basis:

- In addition to cleaning the patient area after each run, on the day specified by the fire department, wash the interior of the vehicle, stretcher, stair chair and backboards with phenolic or quaternary compound solution following label directions.
- Clean the exterior and interior vehicle compartments.
- Test the voice and telemetry radio equipment on the assigned day via mobile and portable telemetry radios. Test portable and mobile trunking radios.
- Rotate medications such that waste due to expiration does not occur.

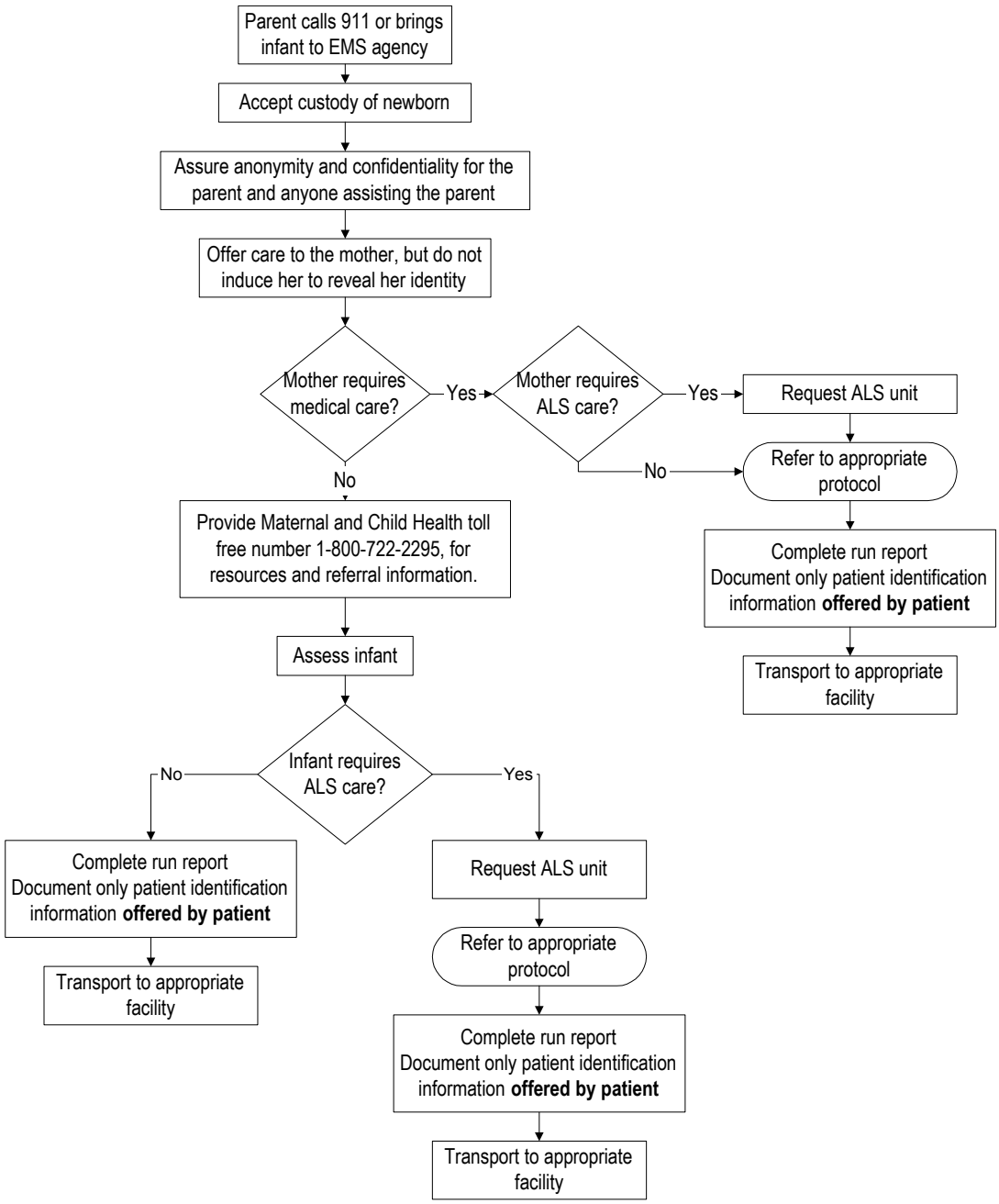
On a biweekly basis:

- On the day determined by the fire department, inventory all supplies and check expiration dates. Prepare a list of needed items.
- Complete the supply order form and e-mail to the Milwaukee County EMS offices before Friday prior to delivery date.
- Receive, check, and store supplies. Rotate stock. Notify EMS Stores Clerk of any discrepancies.

On a monthly basis:

- On the day specified by the fire department, remove all contents of the kits. Check the expiration dates on all medications and fluids. Return expired medications to the Milwaukee County EMS Stores Clerk. Wash out the kits with phenolic or quaternary ammonium compound solution following directions. Dry completely before replacing contents.
- On the day specified by the fire department, remove all medications and fluids from vehicle stock, checking expiration dates. Return expired medications to the Milwaukee County EMS Stores Clerk. Expired controlled substances must be returned with corresponding paperwork immediately. Wipe out compartments with phenolic or quaternary ammonium compound solution following directions. Dry completely before replacing contents.
- As scheduled, discharge and recharge all monitor/defibrillator batteries as per manufacturer operational instructions listed in the manufacturer's manual. Any battery with levels of less than 70% displayed after 3 discharge-charge cycles should be brought to the EMS Supervisor for replacement. Note the battery results on the back of each battery.

POLICY: Milwaukee County EMS providers will accept custody of and provide a safe place for unwanted newborn infants.



Notes:

- Wisconsin 2001 Act 2, Safe Place for Newborns legislation **guarantees** the parent relinquishing custody of the child **the right to remain anonymous.**
- No person may induce or coerce or attempt to induce or coerce a parent or person assisting a parent who wishes to remain anonymous into revealing his or her identity.
- It is **mandatory** for the EMS provider to offer the Maternal and Child Health toll free number (1-800-722-2295), although the parent may refuse the information.

POLICY:

The Milwaukee County EMS System is designed to provide the highest level of emergency care allowed by the state during the initial patient care contact by the first arriving unit. Each level has specific education and licensing requirements. EMS providers may practice to the level of their licensure as outlined within the Milwaukee County community standard of care.

All EMS response vehicles in the Milwaukee County EMS System must be equipped as specified in Wisconsin DOT Chapter Trans 309 to promote safe, efficient emergency transportation for the sick, injured and disabled.

Inclusive of Trans 309 requirements, Milwaukee County EMS providers must carry age appropriate equipment and supplies to provide care and treatment at their designated scope of practice. Each responding unit must also carry a minimum number of medication doses, as defined by the Medical Director of Milwaukee County EMS.

DEFINITIONS:

All EMS response vehicles will be staffed with at least one EMT-B. An EMT-B is licensed under Wisconsin Department of Health and Social Services Chapter HFS 110 to administer basic life support and to properly care for and transport sick, disabled or injured individuals.

Some EMS response vehicles will be staffed with an Advanced EMT (referred to as an EMT -IV Technician throughout the remainder of this document). An EMT- IV Technician is licensed under Wisconsin Department of Health and Social Services Chapter HFS 110 to administer basic life support and additional skills and medications defined in the Wisconsin EMS Scope of Practice and contained in the training course required to be licensed as an EMT IV Technician. The EMTIV Technician may obtain IV access or administer IV medications as directed by system protocol.

Advanced procedures are defined in HFS 110 as: prehospital care consisting of basic life support procedures and invasive lifesaving procedures including the placement of advanced airway adjuncts, intravenous infusions, manual defibrillation, electrocardiogram interpretation, administration of approved drugs and other advanced skills identified in the Wisconsin scopes of practice.

Some units will be staffed with a single paramedic (Paramedic First Responder or PFR). A PFR is defined as the first paramedic arriving on scene in a vehicle other than a transporting Milwaukee County Paramedic Unit, who provides the initial patient assessment and care. The PFR is authorized to practice at the full paramedic level when the responding Milwaukee County ALS unit arrives on scene.

Designated paramedic units will be staffed at all times with at least two EMT-Ps. An EMT-P is licensed under Wisconsin Department of Health and Social Services Chapter HFS 110 to perform the functions specified in Wisconsin EMS Scope of Practice relating to the administration of emergency medical procedures in a prehospital or interfacility setting and the handling and transporting of sick, disabled or injured persons.

All EMS providers will be assigned a practice privilege and will be required to meet the criteria set to maintain that privilege.

NOTE: Drug administration routes enclosed in brackets [ET] may only be administered at the EMT-P First Responder or Paramedic level

PROVIDER LEVEL	SCOPE OF PRACTICE	EQUIPMENT & SUPPLY LIST	MINIMUM ILS UNIT DOSES	MINIMUM PFR UNIT DOSES	MINIMUM MED UNIT DOSES
EMT-B An EMT-B is authorized to perform the skills and administer the medications listed to the right. All Milwaukee County EMS units responding at the EMT-Basic level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.	BLS patient care assessment				
	Albuterol/ipratropium, nebulized	Albuterol/ipratropium	1	1	1
		Nebulizer			
	Aspirin	Aspirin	1	1	10
	Automated external defibrillation	Automatic External Defibrillator			
	Blood glucose level analysis	Alcohol preps			
		Blood glucose monitoring unit			
		Blood glucose test strips and lancet devices			
	Colorimetric capnography	Colorimetric EtCO2 device	1	1	1
	King Airway	King Airway			
	Epinephrine 1:1000 for patients in anaphylactic shock, IM	Epinephrine 1:1000	1	1	2
		1cc syringe if no Epi Pen			
	Glucagon, IM, IN	Glucagon	1	1	1
		Mucosal atomization device			
	Glucose (oral)	Glucose (oral)			
	MARK I Autoinjector, IM	DuoDote Autoinjector	1	1	1
	Oxygen administration				
		Laryngoscope handle & blades			
		Laryngoscope spare bulbs			
		Magill forceps			
		Water soluble lubricant			
		20 cc syringe			
		60 cc syringe			
	Pulse oximetry (if the equipment is available)	Pulse oximetry (if the equipment is available)			
	Naloxone IN for narcotic overdose if approved for pilot	Naloxone 2 mg in 2 mL			

PROVIDER LEVEL	SCOPE OF PRACTICE	EQUIPMENT & SUPPLY LIST	MINIMUM ILS UNIT DOSES	MINIMUM PFR UNIT DOSES	MINIMUM MED UNIT DOSES
EMT- IV Tech An EMT IV Tech is authorized to perform all of the above skills with the addition of the skills listed to the right . In addition to the equipment listed above, all Milwaukee County EMS units responding at the EMT-IV Tech level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.	Peripheral IV access	Angiocaths (14, 16, 18, 20, 22, 24 gauges)			
	Intraosseous access [IV medications]	Intraosseous drill and needles (adult, pediatric and bariatric)			
		Carpuject holder			
		IV Tourniquets			
		IV extension tubing			
		Macro drip			
		Mini drip			
		Normal Saline, Carpuject, 2cc			
		Normal Saline – 250 cc			
		Normal Saline – 1000 cc			
		Sharps container			
		Transpore tape			
	D5W, 100 ml, IV, IO	D5W, 100 ml	1	1	3
	Normal saline, IV, IO	Normal saline, IV	1	1	1
	Dextrose 50%, IV, IO, Oral	Dextrose 50%, IV	1	1	2
	Naloxone, IV, IM IO, IN, [ET]	Naloxone, IV or IM	1	1	1
	Nitroglycerine spray	Nitroglycerine spray	1	1	1

PROVIDER LEVEL	SCOPE OF PRACTICE	EQUIPMENT & SUPPLY LIST	MINIMUM ILS UNIT DOSES	MINIMUM PFR UNIT DOSES	MINIMUM MED UNIT DOSES
EMT-P First Responder A PFR is authorized to perform all of the above skills with the addition of the skills listed to the right. In addition to the equipment listed above, all Milwaukee County EMS units responding at the EMT-PFR level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.	ALS assessment for turndown purposes				
	Endotracheal intubation	Endotracheal tubes (sizes 3.0 – 9.0)			
		Endotracheal tube holder			
		Stylet – adult and pediatric			
	12 lead ECG (if the equipment is available)	12-lead transmission device			
	Adenosine , IV, IO	Adenosine		1	4
	Amiodarone, IV, IO	Amiodarone		2	3
	Atropine, IV, IO, ET	Atropine		1	3
	Diphenhydramine, IV or IM	Diphenhydramine		1	2
	Epinephrine 1:10,000, IV, IO, ET	Epinephrine 1:10,000		1	5
	Thoracostomy				
		Swivel adapter, 15 mm			
EMT-P An EMT-P, responding on a fully staffed ALS unit, is authorized to perform all of the above skills with the addition of the skills listed to the right. In addition to the equipment listed above, all Milwaukee County EMS units responding at the EMT-P level must carry the equipment and supplies listed in the box to the right, as well as any other equipment and/or supplies specified in Trans 309.		AED with monitoring capabilities			
	Calcium chloride, IV, IO	Calcium Chloride		0	2
	Continuous Positive Airway Pressure				
	Dopamine, IV, IO	Dopamine		0	1
	Wave form End-tidal CO2	Wave form End-tidal CO2			1
	Ketamine, IV, IM	Ketamine			??
	Lidocaine, IV, IO, ET	Lidocaine		0	3
	Midazolam, IV, IM, IN	Midazolam		0	3
	MARK IV Autoinjector, IM	MARK IV Autoinjector	0	0	1
	Fentanyl, IV, IM, IO, IN	Fentanyl sulfate		0	1
	Nasogastric tube insertion	Nasogastric tubes			
	Ondansetron, PO, IV/IO	Ondansetron			1
	Pericardiocentesis	Pericardiocentesis needles			
	Tracheostomy care				
	Synchronized cardioversion				
	Sodium bicarbonate, IV, IO	Sodium bicarbonate		1	1

The mission of Milwaukee County EMS is to provide performance excellence in prehospital care through education, communication, operations, information and quality management, and scientific discovery.

I. Medical Control: It is the responsibility of the Emergency Medical Services Medical Director to:

- Assure that initial training to Emergency Medical Technicians meets the standards established by the State of Wisconsin and the EMS medical community.
- Provide continuing education to maintain knowledge and skill levels.
- Establish General Standards of Care, Medical Protocols, Standards for Practical Skills and Operational Policies and Medical Standards for Special Operations to define and guide professional practice.
- Supervise and evaluate individuals licensed within the system.
- Provide access to additional training or other support services as needed.
- Actively seek solutions to issues identified through the Quality Improvement process.
- Take appropriate corrective actions upon identification of activities by individuals that negatively impact on the EMS system and/or patient care.

II. EMS Provider: It is the responsibility of each individual provider to:

- Attain and maintain knowledge and skills necessary to safely practice as a licensed provider in the Milwaukee County System.
- Provide medical care within the scope of practice with the needs of the patient as the primary concern.
- Accept personal responsibility for maintenance of professional standards.
- Provide emergency medical services as outlined in Standards of Care, Medical Protocols, Standards for Practical Skills Operational Policies and Medical Standards for Special Operations of the Milwaukee County EMS System.
- Conduct his/her practice in a manner that reflects positively on self, peers, the employing agency and Milwaukee County EMS.

III. Performance Improvement process and mechanisms to identify issues and seek solutions

Evaluation and assessment of the quality of care provided to the public and of the individual practitioner in the Milwaukee County EMS System will be conducted on a regular basis. This includes, but is not limited to standards of care and protocol compliance monitoring.

GOAL	MECHANISM
To encourage communication of the strengths and weakness of the system and to search for improvements	• Provide an accessible Suggestion Box for members to deposit comments and ideas on improving patient care • Advertise and encourage System feedback via the Incident line at the Milwaukee County EMS Offices (414) 257-6663.
To monitor the current status of the system	• Retrospective patient care record review • Retrospective review of Medical Command Form • Retrospective peer review of tapes and patient care records • Development and dissemination of patient questionnaire
To provide feedback on system and individual performance	• Statistical reports on patient interactions • Field evaluations • Continuing education conferences • Refresher courses • Return of peer review of tapes and patient care records to originator of the record for feedback •
To plan for and implement system improvement	• Focused audits to identify issues • Continuing education conferences • Participation in prehospital research • New product evaluations

IV. Due Process

Upon identification of a potential problem or upon receipt of a complaint regarding provision of prehospital care or the action of any individual(s) licensed within the Milwaukee County EMS System, it is the responsibility of the Medical Director and/or Program Director or his/her designee to investigate the allegations impartially and completely. Issues dealing with fire department policy need to be addressed with that fire department in accordance with their department procedures.

FACT-FINDING PHASE

All complaints or allegations must involve a *specific* incident(s) and may be entered by any individual or organization. Any individual named in a complaint has the right to all information obtained by Milwaukee County EMS, including the source of the complaint.
Fact-finding activities will begin within two (2) working days* of the receipt of the complaint and should be completed within 14 days from initial notification of the incident. The Quality Manager or his/her designee is responsible for the initial contacts and collection of information.

*A "working day" is defined as a normal business day of Monday through Friday exclusive of State or Federal Holidays.

Fact-finding activities will include contact with the complainant for additional information as necessary and telephone or personal contact with the EMS provider(s) involved.

The EMS provider(s) will be informed of the specific complaint and the individual or organization who brought the problem to the attention of Milwaukee County EMS.
The EMS provider(s) will respond verbally, providing such information as necessary to clarify or resolve the issues. Written replies may be requested by the Quality Manager and must be completed and submitted within 9 calendar days.

Information will be reviewed by the Medical Director and/or Program Director or his/her designee.

Any report classified as either *Educational* or *Disciplinary* will advance to the reconciliation phase.

An Education Issue is one in which it is perceived that the complaint/problem was created by a lack of understanding of academic foundation, Standard of Care, Medical Protocol(s) or System Policy(ies).

A Disciplinary Issue is one in which there is willful or repeated violation of a Standard of Practice, Medical Protocol or System Policy where the EMS provider has the appropriate academic foundation and/or has received remedial education regarding the Standard, Protocol or Policy.

RECONCILIATION PHASE

For Educational Issues, the EMS provider(s) involved will be notified by letter of the results of the fact-finding.

- The letter will be sent to the EMS provider's home address on file at the MC EMS offices.
- If, in the judgment of the Medical Director, the facts of the situation warrant a meeting to review academic material or policies/procedures, the EMS provider(s) will be instructed in the above letter to contact the Medical Director's office to arrange a meeting date and time.
- If the EMS provider(s) fails to contact the Medical Director within five (5) days of the date the letter was mailed, the Medical Director or designee will call the EMS provider at his/her place of employment to verify receipt of the letter and to schedule the educational session.
- The educational session will be conducted by the Medical Director or his/her designee. The time and place of the session will be established when the EMS provider calls the Medical Director but must be scheduled within five (5) working days of the call.

- Failure to respond to the letter and telephone contact or refusal to attend a scheduled educational conference will be reported, verbally and in writing, to the EMS Liaison of the employing fire department accompanied by a request for formal action by the department. That report will contain the details of the complaint, the results of the fact finding and the documentation of contact with the EMS provider(s) involved.
- A copy of the fact-finding letter and a summary of the educational session will be kept on file at the Milwaukee County EMS offices.

In Disciplinary Issues, the EMS provider(s) involved will be notified by letter of the results of the fact-finding.

- The letter will be sent to the EMS provider's home address on file at MC EMS. A copy of that letter will be sent to the EMS Liaison of the employing fire department with a cover letter from the Medical Director requesting disciplinary action.
- The Medical Director retains the right to impose sanctions on the practice of any individual, including limits placed on patient contact from the start of the fact-finding phase through the disciplinary action of the employing fire department, if a potential risk to public safety is alleged.

Actions requested of the EMS Liaison of the employing fire department by the Medical Director may include but are not limited to:

- No disciplinary action indicated.
- Monitoring of performance for a specified time including specifics of who will do the monitoring and the evaluation tools employed to monitor progress.
- Counseling including specific issues of concern, improvement expected and the evaluation process to be used to determine progress.
- Written reprimand to the individual with copies to the employing agency and the EMS provider's file at the MC EMS offices.
- Probation with specifics of the conditional terms under which the EMS provider may continue to practice, the time of reviews and the behavioral changes expected with the evaluation tools to be used to monitor progress.
- Suspension from EMS provider duties.
- Withdrawal of Medical Control with written notification of the employing agency and the State of Wisconsin, EMS Section, that the Milwaukee County EMS System will no longer accept any medical responsibility for the actions of the individual.

Records of complaints, results of the investigations and the actions taken will be retained on file at Milwaukee County EMS. EMS provider and patient confidentiality are mandatory.

POLICY: Patients are to be transported to the closest, most appropriate, open receiving hospital, taking into consideration:

- Patient's medical condition;
- Patient's request;
- Location of regular care, primary medical doctor and/or medical records;
- Insurance/HMO.

Patients in need of specialty care should be transported to the closest appropriate receiving facility, based on the following information:

Medical Emergencies :		
Aurora: Grafton Sinai St. Luke's – Milwaukee St. Luke's – South Shore West Allis Memorial/Women's Pavilion Children's Hospital and Health System Children's Hospital of Wisconsin	Columbia St. Mary's (CSM): Milwaukee Ozaukee Froedtert Health: Community Memorial Froedtert ProHealth Care: Waukesha Memorial	Wheaton Franciscan Healthcare (WFH): All Saints (Racine) Elmbrook Memorial Franklin St. Francis St. Joseph The Wisconsin Heart Hospital Zablocki VA Medical Center (VA)
Patient Assessment:	Specialty Hospital:	
STEMI (Acute MI per pre-hospital ECG) ROSC	Transport to closest hospital, ***regardless of diversion status*** – Aurora Grafton; St. Luke's Milwaukee; Children's Hospital of Wisconsin; CSM-Milwaukee; CSM-Ozaukee; Community Memorial, Froedtert Hospital, Waukesha Memorial; All Saints, Elmbrook Memorial, St. Francis, St. Joseph, WI Heart Hospital. If patient is stable and requests transport to medical home, transport to closest STEMI/ROSC hospital within medical system.	
Stroke Center – Last Known Well (LKW) less than 8 hours	Transport to closest hospital, ***regardless of diversion status*** – Aurora Grafton; Aurora Sinai; St. Luke's Milwaukee; West Allis Memorial; St. Luke's South Shore; Children's Hospital of Wisconsin; CSM-Milwaukee; CSM-Ozaukee; Community Memorial, Froedtert Hospital, Waukesha Memorial; Elmbrook Memorial; St. Francis; St. Joseph. If patient is stable and requests transport to medical home, transport to closest stroke hospital within medical system.	
Need for Trauma Center evaluation Burns and/or possible CO poisoning WITH major/multiple trauma	Children's Hospital of Wisconsin Froedtert Hospital	
Possible CO poisoning with altered mental status, WITHOUT burns/major trauma	Transport to the closest: St. Luke's - Milwaukee	
Significant burns (thermal, chemical or electrical) *with or without* possible CO poisoning WITHOUT major trauma	CSM - Milwaukee	
Other hyperbaric (air embolism, decompression disease, bends, SCUBA)	Transport to the closest: St. Luke's - Milwaukee	
Major pediatric illness/injury	Children's Hospital of Wisconsin	
Pediatric burns (Age <12)	Children's Hospital of Wisconsin	
Unstable newborns	Transport to the closest Neonatal Intensive Care Unit: Children's Hospital of Wisconsin	St. Joseph CSM - Milwaukee All Saints - Racine
Sexual assault - WITHOUT co-existing life threatening condition	Adults (age 18 and over): Aurora Sinai West Allis Memorial Emergency Department	Children (under age 18): Children's Hospital of Wisconsin
OB patients in labor	1. Facility where patient received their prenatal care is preferred. Hospitals never close to women in labor. *For gestational age less than 20 weeks, patient will be evaluated in ED.* 2. For imminent delivery, transport to the closest open hospital: Aurora Grafton; Aurora Sinai; West Allis Memorial; CSM-Milwaukee; CSM-Ozaukee; Community Memorial, Froedtert Hospital, Waukesha Memorial; All Saints; Elmbrook Memorial; St. Francis; St. Joseph; WI Heart Hospital	
Psychiatric Emergencies: Medical clearance needed No medical clearance needed/patient is at high risk for harm to self or others, and/or is behaviorally disruptive (should be placed on Emergency Detention) No medical clearance needed/patient is at low risk for harm to self or others (police involvement not required)	Closest Emergency Department Psychiatric Crisis Service of Milwaukee County Behavioral Health Division (PCS) 1. If patient is seen in the Milwaukee County Behavioral Health system (MCBHD), transport to the Psychiatric Crisis Service (PCS) center on a voluntary basis 2. If not a patient of MCBHD, transport to closest ED for mental health evaluation	
Infection Alert: Ebola Ebola Virus Disease (EVD)	Wheaton Franciscan Healthcare - transport to St. Joseph for stable patients requesting a Wheaton Franciscan hospital All other hospital systems – transport to the closest appropriate hospital	

NOTES:

- No routine transport to a closed hospital under any circumstances.
- Hospitals providing specialty services never close to their specialty.
- WI*Trac* will post transport instructions for extenuating circumstances

Designation by Hospital		
Hospital	***MC EMS Stroke Center****	***MC EMS PCI Receiving Hospital****
Aurora Grafton	**Stroke**	**STEMI/ROSC**
Aurora **Sinai**	**Stroke**	
Aurora **St. Luke's** (Main)	**Stroke**	**STEMI/ROSC**
Aurora **St. Luke's – South Shore**	**Stroke**	
Aurora **West Allis**	**Stroke**	
Children's Hospital of Wisconsin	**Stroke**	**STEMI/ROSC**
Columbia St. Mary's - Milwaukee	**Stroke**	**STEMI/ROSC**
Columbia St. Mary's – Ozaukee	**Stroke**	**STEMI/ROSC**
Froedtert **Community Memorial**	**Stroke**	**STEMI/ROSC**
Froedtert Hospital	**Stroke**	**STEMI/ROSC**
Waukesha Memorial	**Stroke**	**STEMI/ROSC**
Wheaton Franciscan **All Saints (Racine)**		**STEMI/ROSC**
Wheaton Franciscan **Elmbrook** Memorial	**Stroke**	**STEMI/ROSC**
Wheaton Franciscan **Franklin**		
Wheaton Franciscan **St. Francis**	**Stroke**	**STEMI/ROSC**
Wheaton Franciscan **St. Joseph**	**Stroke**	**STEMI/ROSC**
Wheaton Franciscan Wisconsin **Heart Hospital**		**STEMI/ROSC**

Designation by Working Assessment	
MC EMS Stroke Center*	***MC EMS PCI Receiving Hospital****
Aurora **Grafton**	Aurora **Grafton**
Aurora **Sinai**	
Aurora **St. Luke's**	Aurora **St. Luke's**
Aurora **St. Luke's – South Shore**	
Aurora **West Allis**	
Children's Hospital of Wisconsin	**Children's Hospital** of Wisconsin
Columbia St. Mary's - Milwaukee	**Columbia St. Mary's - Milwaukee**
Columbia St. Mary's – Ozaukee	**Columbia St. Mary's – Ozaukee**
Froedtert **Community Memorial**	Froedtert **Community Memorial**
Froedtert Hospital	**Froedtert** Hospital
Waukesha Memorial	**Waukesha Memorial**
	Wheaton Franciscan **All Saints (Racine)**
Wheaton Franciscan **Elmbrook** Memorial	Wheaton Franciscan **Elmbrook** Memorial
Wheaton Franciscan **St. Francis**	Wheaton Franciscan **St. Francis**
Wheaton Franciscan **St. Joseph**	Wheaton Franciscan **St. Joseph**
	Wheaton Franciscan **Wisconsin Heart Hospital**

*Hospitals not included in a list do not have designation as receiving hospital for Stroke, STEMI or ROSC

The uniform of an individual functioning within the Milwaukee County Paramedic System shall be the uniform as specified by the employing fire department plus a short sleeved, front-zippered white laboratory jacket with the pertinent fire department patch attached to the left sleeve and the Milwaukee County Paramedic patch attached to the right sleeve.

Each paramedic student is issued three (3) white uniform jackets upon entrance to the Paramedic Education Program. After successful completion of the Paramedic Educational Program and the State Board Licensing examination, the paramedic graduate will receive three (3) paramedic patches at commencement. Any additional uniform jackets or patches can be purchased from Milwaukee County EMS at cost. The paramedic patch cannot be given or sold to any other person or agency or attached to any garment other than the white uniform top and the fire department outwear jacket.

White uniform jackets with appropriate patches are to be worn on all medical (EMS) responses unless special circumstances dictate otherwise (e.g. extrication problems, fires). It is the responsibility of the paramedic to maintain the uniform jacket in a clean and neat condition. Should a white uniform jacket become damaged or permanently stained, the paramedic is required to obtain a replacement jacket. The white uniform jacket should be purchased through Milwaukee County EMS to maintain Countywide consistency.

In addition to the white uniform jacket the paramedic shall have in his/her possession the following items:

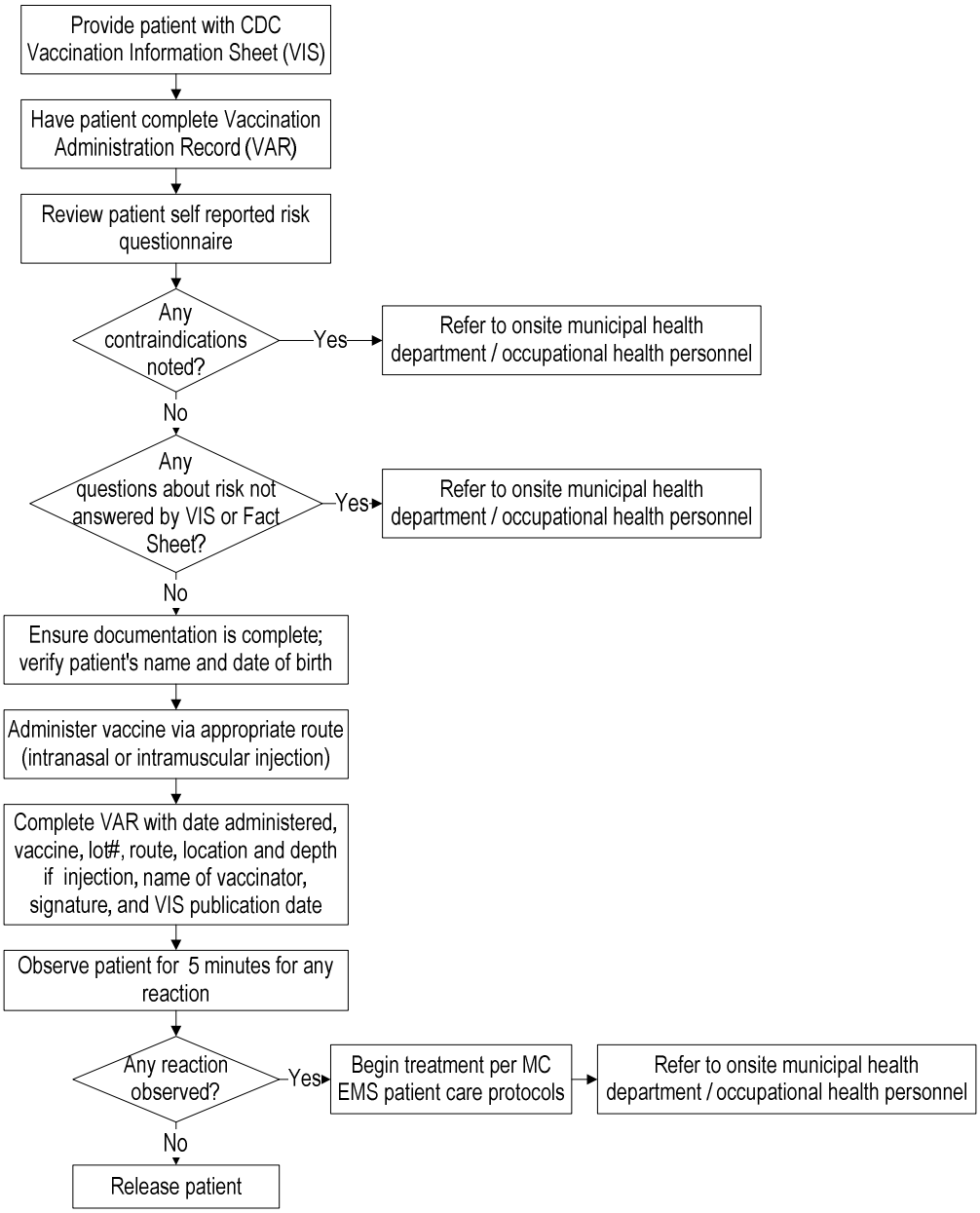
Stethoscope
Scissors*
Penlight*
Gloves, mask, eyewear/face shield *(personal protective equipment to prevent exposure to blood and body fluids).
Watch or time-keeping device.

One member of the team should have a pocket mask immediately available so mouth-to-mouth resuscitation is never done.

* Initially supplied by the Milwaukee County EMS and will be replaced without cost only if damaged during authorized use.

Initiated: 2/17/10	**MILWAUKEE FIRE DEPARTMENT**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**OPERATIONAL POLICY**	WI EMS Approval Date:
Revision:	**VACCINE ADMINISTRATION**	Page 1 of 1

Policy: Vaccines may be administered at sites outside of municipal health department (MHD) clinics under special circumstances, as approved by the Immunization Program Manager. A municipal fire department is an approved off site location for immunization administration.



NOTES:

- Vaccinations will be administered only as part of an approved program in cooperation with public or occupational health services.

MEDICAL STANDARDS FOR SPECIAL OPERATIONS

SPECIAL OPERATION TEAMS

POLICY:

- All teams utilizing special operations policies, protocols and standards under Milwaukee County EMS direction must have prior approval from Milwaukee County EMS.

- All special operation teams will adopt and adhere to the standards of care, medical protocols, standards for practical skills and operational policies as outlined in the *Milwaukee County EMS Standards Manual* defining the community standard of care. Supplemental special team specific standards of care, medical protocols, standards for practical skills and operational policies are defined in the Special Operations section of the *Milwaukee County EMS Standards Manual*.

- A paramedic may only be assigned to a special team after satisfactory completion of training consistent with local, state, and national standards.

- Policies unique to a special team are to be implemented only under circumstances where the team has been activated.

POLICY: All Tactical EMS (TEMS) providers must operate with an awareness of the tactical situation. The first priority is maintaining the safety and security of TEMS providers, law enforcement officers, other team members, and patients. The second priority is to support the completion of the mission. General operating procedures are described below.

I. General Issues
   A. Area of operations
      1. No TEMS provider is to enter the designated "hot zone", nor engage in direct tactical operations
      2. TEMS providers will operate in the "warm zone" as allowed by local department policies and procedures (the local law enforcement agency will have responsibility for providing security for TEMS providers)
      3. TEMS providers may operate in the "cold zone" as needed
   B. Maintaining security
      1. TEMS providers will always maintain a vigilant defensive posture
      2. Primary responsibility for area/scene security rests with the law enforcement agency
      3. TEMS providers will follow the tactical instructions of law enforcement officers
      4. When not involved with patient care, TEMS providers may, at the team's discretion, assist by observing the area for potential threats, and communicating with law enforcement officers
   C. Weapons
      1. All TEMS providers will remain alert to detect any weapons carried by a patient
      2. If weapons are detected, the TEMS provider will contact a law enforcement officer to remove them
      3. TEMS providers are not to handle weapons unless there is an immediate danger to the safety of team members or the patient
      4. If handling of a weapon is unavoidable, the provider will use universal precautions in handling weapons, will adhere to the standard Milwaukee County EMS operational policy on Potential Crime Scenes, and will contact a law enforcement officer immediately to take possession of the weapon

II. Patient care
   A. TEMS providers must pay the utmost attention to the safety of team members
   B. TEMS providers must not deliver care if doing so will jeopardize the safety of themselves or other team members
   C. All patients are to be disarmed by law enforcement before delivery of care, except in extreme circumstances
   D. TEMS providers will adhere to Milwaukee County EMS policies, procedures, and protocols when caring for patients
   E. Suspects and bystanders as patients
      1. All suspects and bystanders must be disarmed by law enforcement before care is rendered
      2. TEMS providers will contact a law enforcement officer when needed to secure a patient or weapons

F. Team members as patients
   1. Except in extreme circumstances, all team members are to be disarmed by law enforcement officers before delivery of care by TEMS providers
   2. An armed team member must be disarmed if any of the following occur in the patient
      a. Confusion, disorientation, or loss of consciousness
      b. Systolic blood pressure less than 100
      c. Loss of radial pulse
   3. TEMS providers will contact a law enforcement officer when needed to restrain a team member and/or secure weapons

POLICY: All patient encounters by a Milwaukee County EMS provider will be documented. Patient privacy and the confidentiality of all medical records will be maintained at all times.

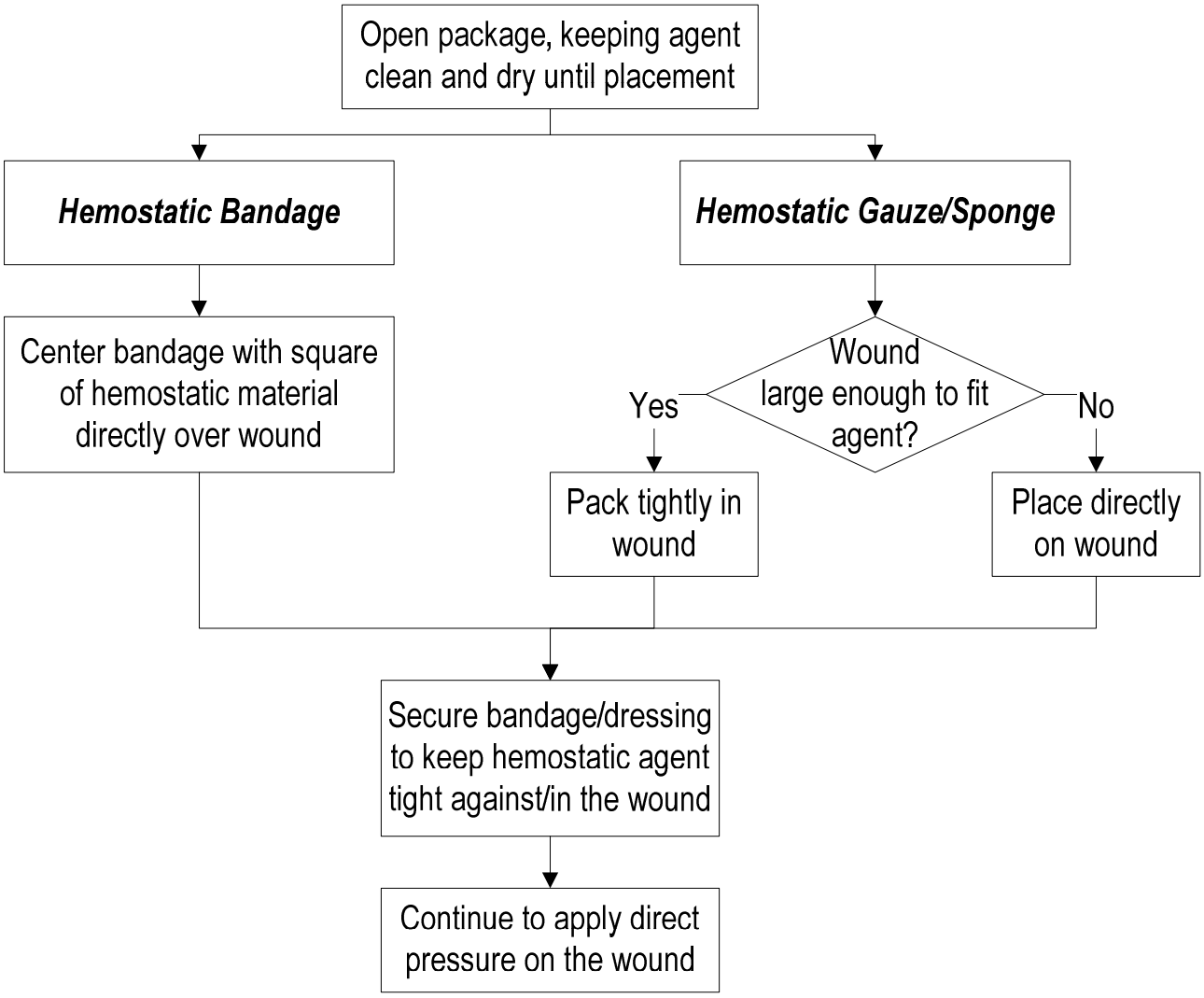
I. Documentation of Care of Bystanders and Suspects
   A. All patients who are bystanders or suspects will receive a full assessment per usual Milwaukee County EMS policies and protocols
   B. The normal patient care record must be completed as per usual Milwaukee County EMS policies and protocols

II. Documentation of Care of TEMS or Law Enforcement Personnel
   A. TEMS providers will follow all usual Milwaukee County EMS policies and protocols in caring for team personnel
   B. Individual departments should complete their internal documentation for on-duty personnel injuries/illness
   C. The following situations require a full patient assessment and completion of the normal patient care record regardless of visible injuries or symptoms:
      i. Any injury inflicted by a suspect
      ii. Any injury sustained during contact with a suspect
      iii. Any motor vehicle crash, gunshot wound, or stabbing
   D. TEMS providers will consult the medical director if there are any questions regarding proper documentation

III. Review of Documentation
   A. Copies of all patient encounters are to be submitted to Milwaukee County EMS
   B. All patient encounters will be reviewed by the TEMS medical director
   C. Medical records will not be released to anyone without the written consent of the patient (except in III-D below).
   D. The medical director may choose to review cases with TEMS providers for educational and quality assurance purposes. Patient privacy will be maintained during these discussions, and no information will be transmitted outside of the discussion session.

Initiated: 3/7/12	**MILWAUKEE COUNTY EMS SPECIAL OPERATIONS**	Approved by: Ronald Pirrallo, MD, MHSA J. Marc Liu, MD, MPH
Reviewed/revised:	**TEMS HEMOSTATIC AGENTS**	
Revision:		Page 1 of 1

Purpose:		**Indications:**	
To stop uncontrolled hemorrhage not responsive to continued direct pressure		Uncontrolled hemorrhage not responsive to continued direct pressure Large or gaping wounds with hemorrhage Hemorrhaging wounds not appropriate for tourniquet use	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
May promote clotting of blood to reduce/stop hemorrhage	Requires proper placement and direct pressure	Further trauma to wound during placement	None



Notes:

- Approved hemostatic agents include –QuickClot gauzes and bandages, QuickClot ACS/1st Response, QuickClot Sport, HemeCon bandages and dressings
- Direct pressure on a wound is required with the use of a hemostatic agent. Hemostatic agents are only an adjunct to use of direct pressure and/or tourniquet.

SECURITY AND MEDICAL INTELLIGENCE

POLICY: All TEMS providers will maintain the highest levels of operations security ("OPSEC") at all times. TEMS providers will conduct a pre-mission medical assessment at all operations.

I. Operations Security

A. All information on tactical operations will be kept confidential at all times. This includes (but is not limited to) mission locations, mission objectives, status of personnel, any pre and post-mission briefings, or other intelligence information.

B. Information may be shared with TEMS personnel on a need-to-know basis only, and only with the permission of the on-scene tactical law enforcement commander

C. Any breach or suspected breach of operations security must be reported to the on-scene tactical law enforcement commander

II. Medical Intelligence

A. Before any operation, TEMS providers will conduct a pre-mission medical threat assessment and complete a mission checklist/report

B. The medical threat assessment at a minimum must include the following:

i. Location of tactical command post
ii. Location of tactical rally point
iii. Designated evacuation route and mode of transportation
iv. Location and capabilities of hospital closest to mission site
v. Location and capabilities of closest trauma center
vi. Availability of other EMS support
vii. Availability of air-medical assets and location of possible landing sites
viii. Possible environmental threats (heat, cold, sun, etc.)
ix. Possible hazardous materials (chemical, biological, radiological/nuclear, explosive) threats
x. Any other circumstances that may affect the health of personnel

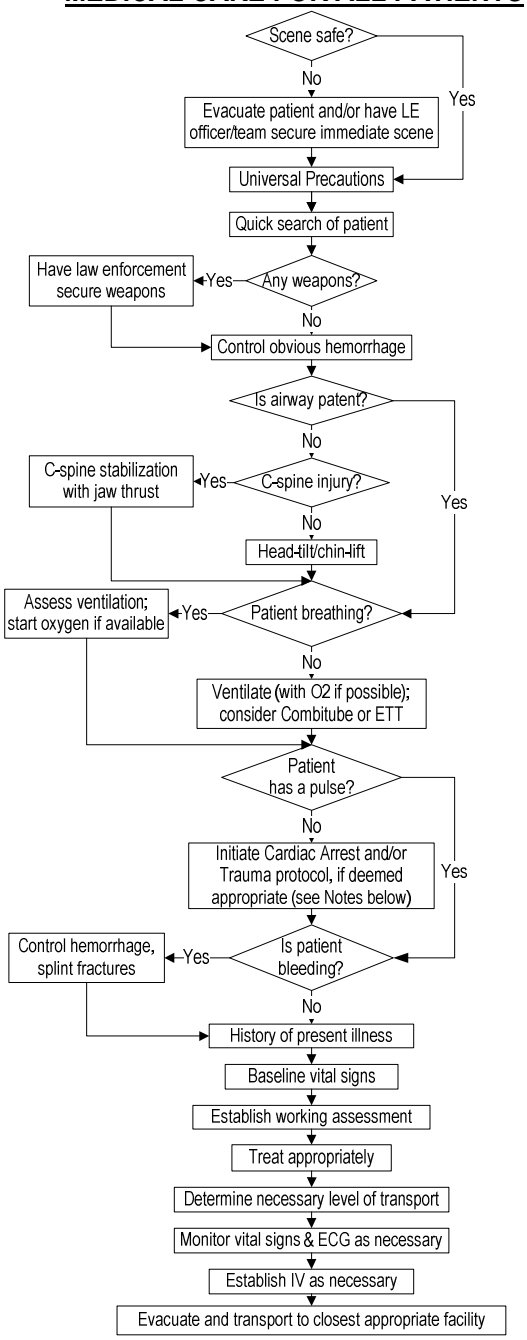
C. The TEMS providers will relay a summary of the medical threat assessment (either verbally or in writing) to the on-scene tactical law enforcement commander

D. For sustained or continuous operations (over 4 hours), a new assessment should be performed and recorded every 4 hours.

E. In the event of the arrival of additional TEMS providers on-scene, the complete medical threat assessment will be relayed (either verbally or in writing) to the newly arriving providers

F. After the conclusion of the mission, a copy of the completed checklist/report will be forwarded to Milwaukee County EMS.

TEMS ROUTINE TACTICAL MEDICAL CARE FOR ALL PATIENTS



Notes:

- When under direct tactical threat, appropriate care is first to evacuate to a safe location or secure the area.
- Before initiating CPR in traumatic arrests, providers should weigh the risks to team safety versus the extremely low survival rate from traumatic arrest in the tactical setting. CPR should still be administered in cases where the cause of arrest is believed to be cardiac, poisoning/overdose, hypothermia, or electrical injury.
- Data show an extremely low incidence of cervical cord injury in penetrating neck trauma patients who do not have obvious spinal deformities or neurologic findings. Providers may decide how to best implement C-spine precautions in the tactical setting.
- All usual Milwaukee County EMS procedures regarding written and radio patient care reports still apply.

POLICY: The following definitions will apply to terms used in TEMS policies.

I. Law Enforcement Officer – A sworn member of a police department who is authorized to enforce laws ("Law Enforcement Officer" is to be differentiated from Fire/EMS officers)

II. Tactical care – Prehospital medical care rendered during active law enforcement or military operations

III. TEMS – Tactical Emergency Medical Services

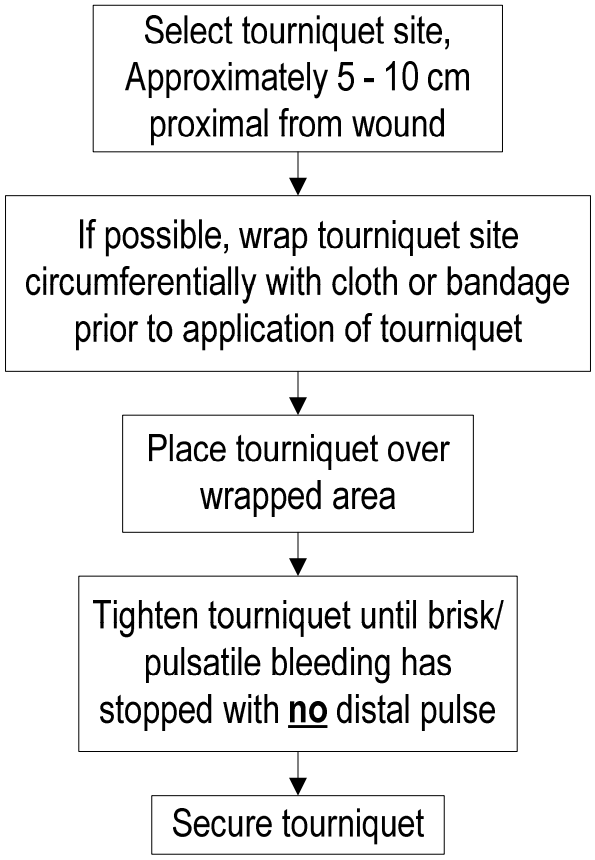
IV. TEMS provider – Also "TEMS operator", an active status member of a recognized TEMS program able to render tactical care

V. Team – Group of EMS and law enforcement personnel operating together

VI. Zones of Care – Areas of operation classified by the level of threats to the safety and security of persons within the area
   A. Hot Zone – Area with a direct and immediate threat to safety; rendering care poses an immediate risk to patient and provider
   B. Warm Zone – Area with threats to safety, though not immediate or direct; rendering care may pose a risk to patient and provider due to the possibility of becoming a hot zone
   C. Cold Zone – Area without any reasonable threat either due to distance, barriers, or substantial interposed security presence; care can be delivered without risk

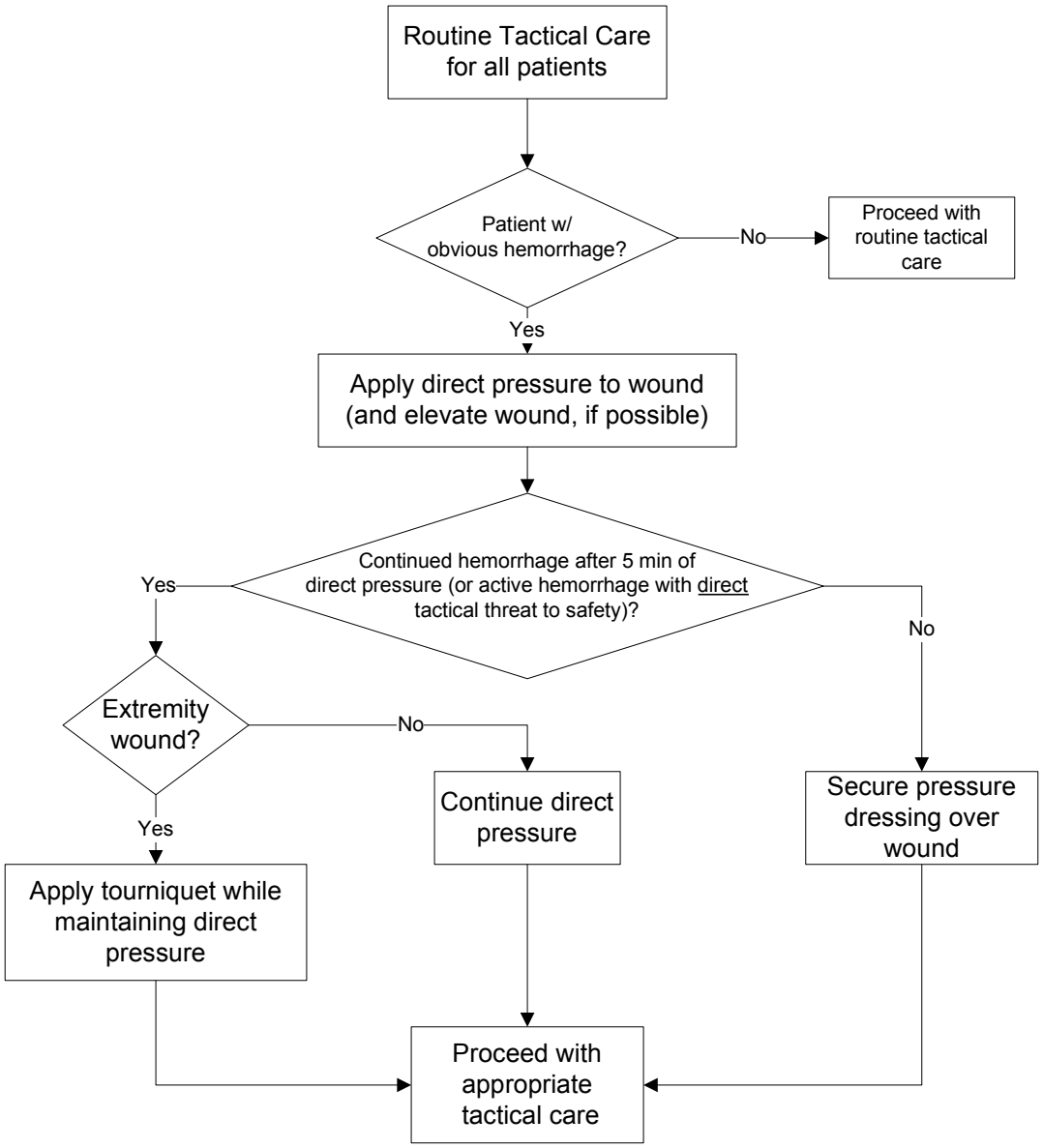
Initial: 10/14/09	**MILWAUKEE COUNTY EMS SPECIAL OPERATIONS**	Approved by: Ronald Pirrallo, MD, MHSA J. Marc Liu, MD, MPH
Reviewed/revised:	**TEMS TOURNIQUET APPLICATION**	Page 1 of 1
Revision:		

Purpose:		**Indications:**	
To stop uncontrolled extremity hemorrhage		Uncontrolled extremity hemorrhage not responsive to direct pressure	
Advantages:	**Disadvantages:**	**Complications:**	**Contraindications:**
Can be secured in place to control hemorrhage	May be painful	Ischemia of extremity with prolonged use (usually over 2 hours)	Only to be used on the extremities, and **not** the torso, face, head, or neck



NOTES:

- Whenever possible, tourniquets should be applied over circumferential clothing remnant or gauze/kling wrap in order to reduce the possibility of skin injury.
- Tourniquets are applied to the injured extremity approximately 5-10 cm proximal to (above) the wound. They should never be applied on a joint. In such cases, the tourniquet can be moved distally (below) or proximally (above) - preferably distal - to the joint.
- A tourniquet should be tightened until brisk/pulsatile bleeding ceases, and there are no detectable distal pulses. The wound may continue to ooze.
- Once placed, a tourniquet should not be removed except under the orders of a physician.
- Every attempt should be made to evacuate a patient with a placed tourniquet to a hospital within 2 hours.

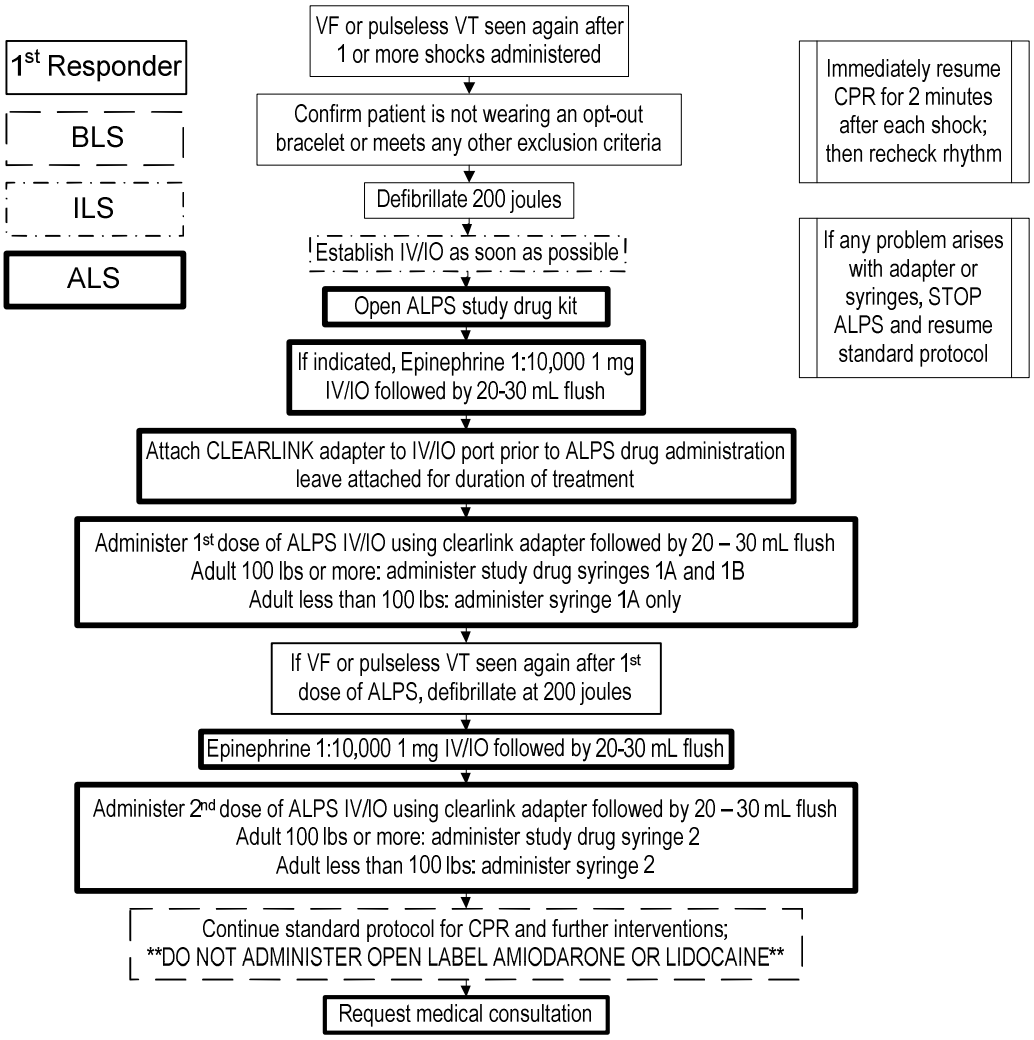


Notes:

- TEMS providers may consider the application of a hemostatic agent while applying direct pressure to a wound.

RESEARCH PROTOCOLS

Primary Objective	Eligibility	Exclusion Criteria
1) Determine if survival to hospital discharge is improved with early therapeutic administration of Captisol- Enabled (PM101) formulation of IV amiodarone 2) Determine if survival to hospital discharge is improved with early therapeutic administration of: a) Lidocaine compared with placebo b) PM101 compared with lidocaine	1) 18 years or older 2) Non-traumatic cardiac arrest Initial rhythm VF or pulseless VT 3) Conversion from another pulseless rhythm to VF or pulseless VT 4) Incessant or recurrent VF/VT after receipt of 1 or more shocks 5) Established vascular access	1) Initial rhythm asystole or PEA without transition to pulseless VT or VF 2) Valid DNR or POLST order 3) Blunt, penetrating, or burn-related injury 4) Exsanguination 5) Patient is a minor 6) Patient is pregnant 7) Patient is a prisoner 8) Prior treatment with lidocaine or amiodarone during resuscitation 9) Known allergy to lidocaine or amiodarone 10) Patient wearing opt-out bracelet



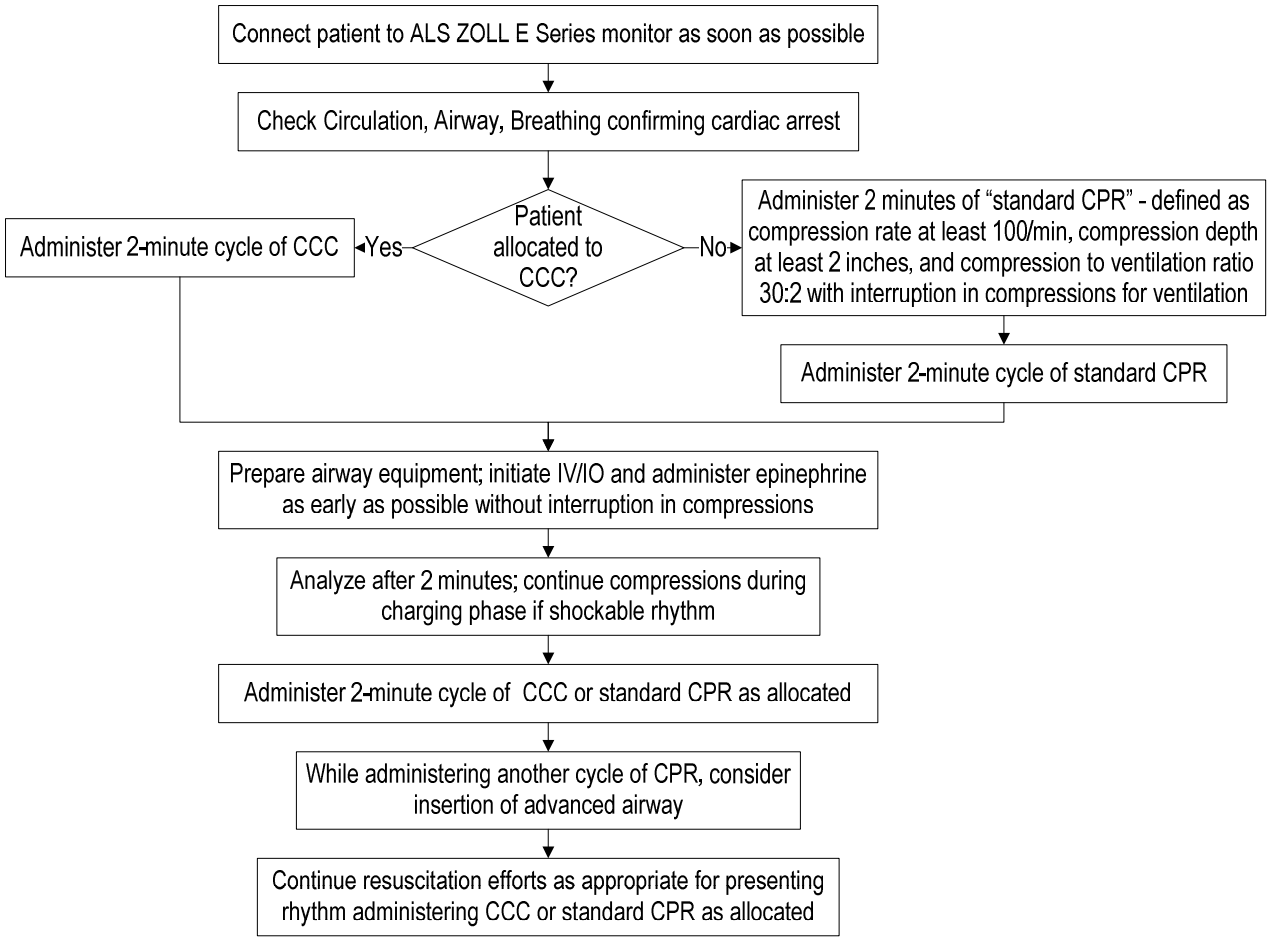
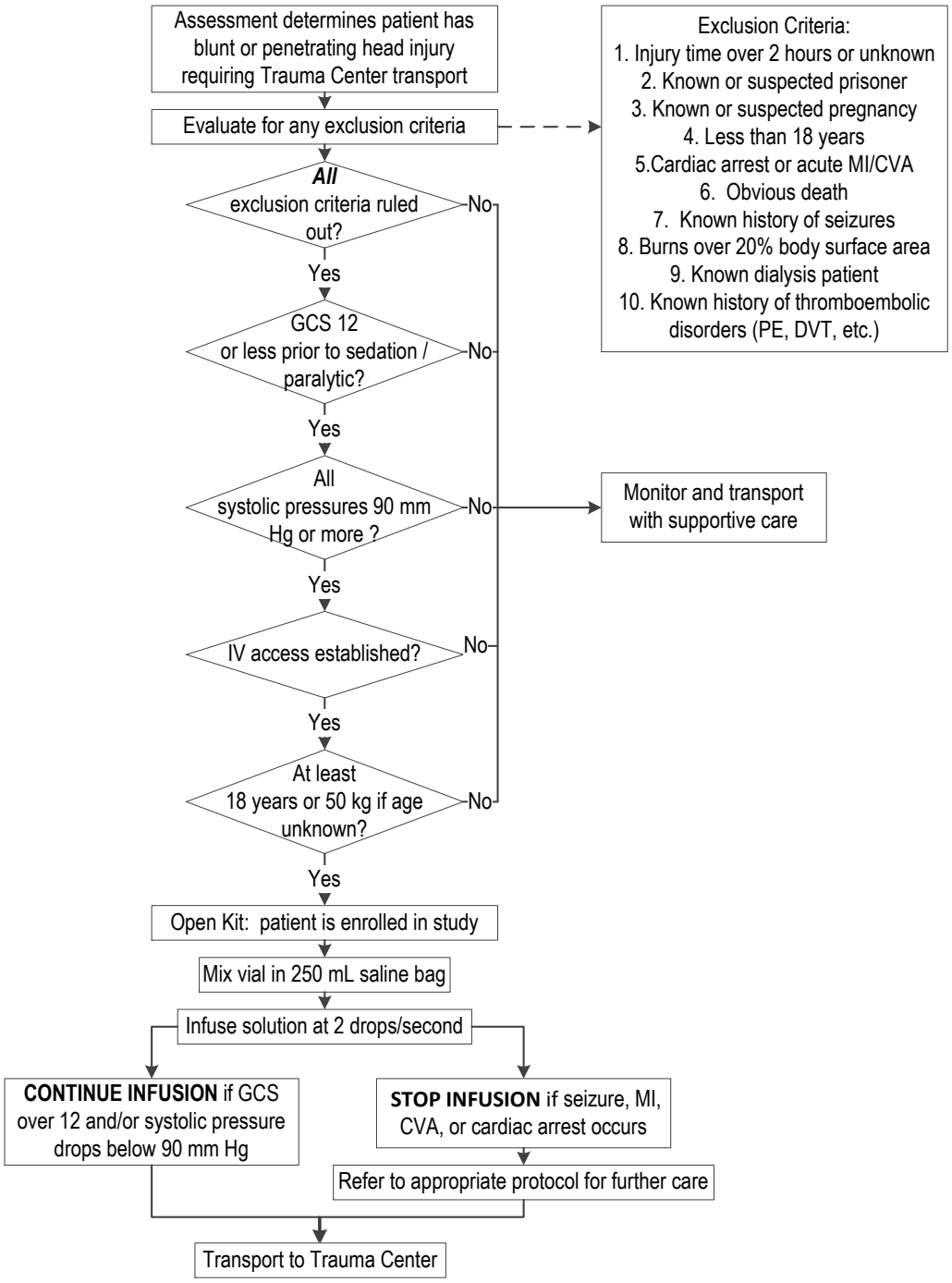
NOTES:

- Study drug MUST be administered using the clearlink adapter
- Any time a non-shockable rhythm is identified, assess pulse after 2 min CPR and treat accordingly. Should VF/VT recur, resume treatment with study drug where last left off, using remaining syringes.
- After administering study treatment, no open label amiodarone or lidocaine should be administered.
- If syringe(s) in kit are broken or malfunction, STOP ALPS and follow standard protocol using open label amiodarone or lidocaine.
- Turn over ALPS written script to receiving hospital ED staff (1 to treating physician, 1 to nurse, 1 to tech/nurse)
- Retain study drug kit with any spent/unspent syringes. After reporting tracking number and usage to research staff, discard syringes according to standard protocol for discarding medications.
- Thoroughly document study procedures in PCR, including kit tracking number and study number.

Initiated: 2/28/12	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Completed:	**RESEARCH PROTOCOL**	WI EMS Notification Date: 3/5/12
Revision:	**CONTINUOUS CHEST COMPRESSIONS**	Page 1 of 1

(CCC) FOR OUT-OF-HOSPITAL CARDIAC ARREST

Primary Objective	Eligibility	Exclusion Criteria
Greater coronary perfusion pressure (CPP) is associated with greater ROSC in animals and humans. Interruptions in chest compression reduce CPP with a consequent reduced chance for a successful outcome. Observational studies in humans suggest a strategy of CCC is efficacious compared to standard CPR. A randomized trial of CCC versus standard CPR is needed to understand the role of pausing for ventilation during the circulatory phase of out-of-hospital cardiac arrest.	Non-traumatic cardiac arrest -Unwitnessed -Bystander witnessed	EMS witnessed Initial treatment by non-ROC EMS agency DNR order presented Obvious trauma (blunt, burns, penetrating, exsanguinations) Obvious primary asphyxia or respiratory cause of arrest Known prisoner, pregnant or age less than 18 years



Primary Objective	Eligibility	Exclusion Criteria
To evaluate the efficacy and safety of TXA administered in the prehospital setting in subjects with moderate to severe blunt and penetrating traumatic brain injuries who are not in shock	1. Blunt and/or penetrating traumatic mechanism consistent with traumatic brain injury 2. Prehospital GCS = 12 or less at any time prior to randomization and administration of sedative and/or paralytic agents 3. Prehospital SBP 90 mm Hg or more prior to randomization 4. Intravenous access 5. Estimated age 18 or older, or over 50 kg if age unknown 6. Transport destination is the Trauma Center	1. GCS = 3 with unreactive pupils 2. Injury occurred more than 2 hours ago OR unknown injury time 3. Cardiac arrest 4. Clinical suspicion of acute MI or stroke 5. Burns covering more than 20% body surface area 6. Suspected or known prisoner 7. Suspected or known pregnancy 8. Patient is on renal dialysis 9. Patient wearing opt-out bracelet